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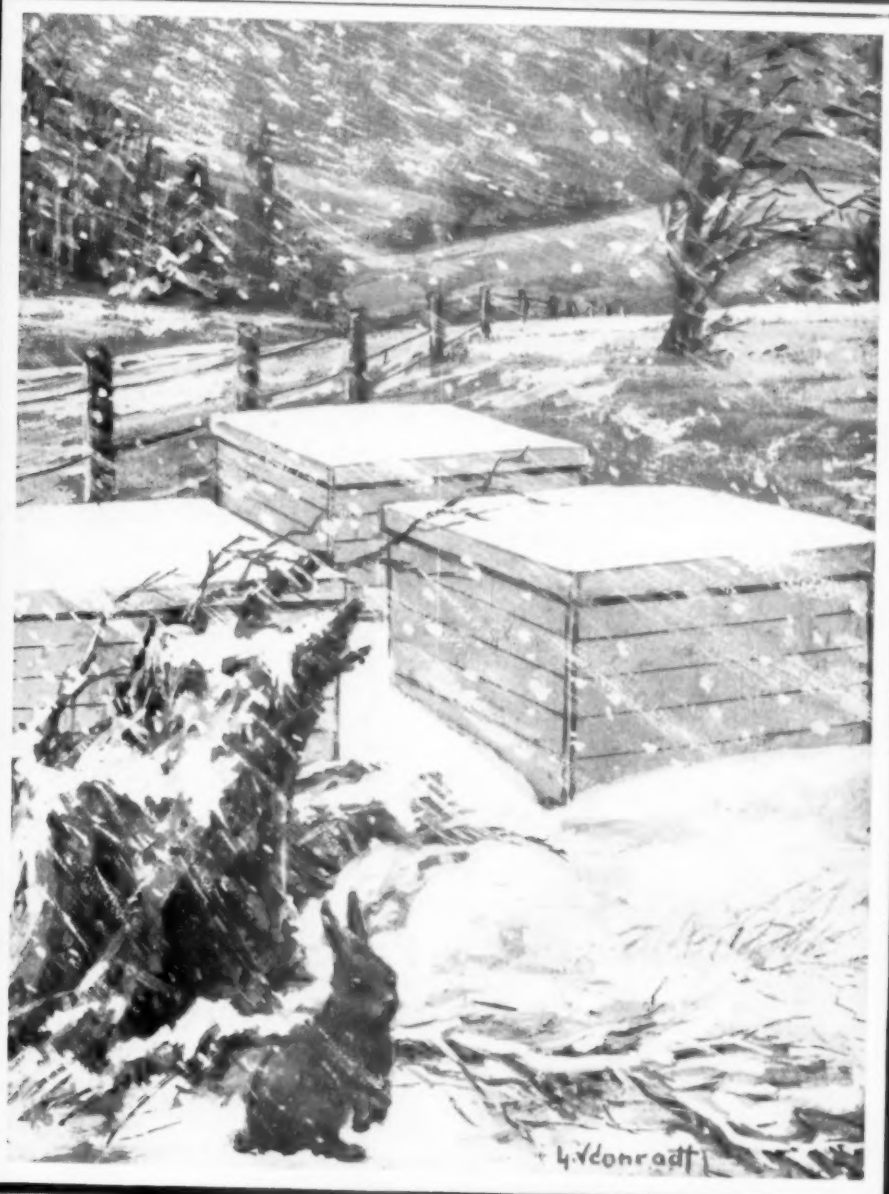

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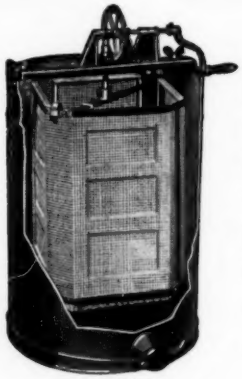

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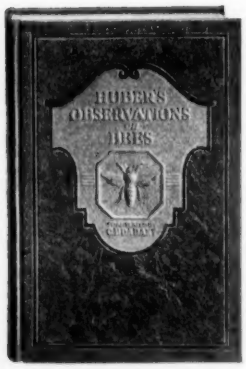

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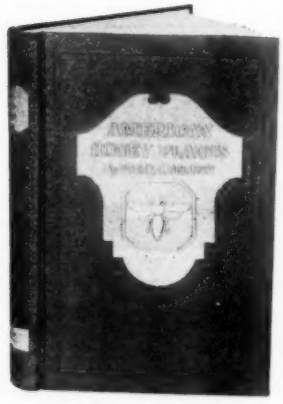

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American Bee Journal

Vol. LXXIX—No. 12 Hamilton, Illinois, December, 1939 Monthly, $1.00 a year

The Honey Market

THE Journal has had its Crop and Market page severely criticized by one of the packers of honey for giving suggestions to the beekeepers that, during the 1939-1940 honey distribution time, good white honey should bring between 5 and 6 cents in carload lots or thereabouts. The packer rightly argues that when you can find honey selling in chain stores at as low a price as 37 cents for 5-pound pails retail, there is absolutely no chance for the big buyer to buy carload lots at 6 cents and make a living as long as such competition is in evidence.

As we have mentioned many times before in our Crop and Market page, honey prices do become chaotic, apparently without any ulterior reason. We all know that the crop this year is shorter than it was last year, even including the carryover; and yet in many instances lower prices are being offered on both comb and extracted than were being offered a year ago.

Perhaps sometime we will reach a stabilized condition such as is evident now in the butter market. (Years ago butter used to sell for every price and be of every quality one could imagine.) The difficulty, of course, lies in the fact that the independent producer is in a position to pack and distribute his own honey without very much apparent expense, while the larger packer has to figure his costs carefully, include transportation charges, and make a margin of profit.

However, we do not feel that such variations in prices and such chaotic distributing conditions should justify our suggesting to our subscribers that 4½ cent honey should prevail. Rather, we believe that the purpose of a bee magazine, as well as of honey producers and packers, should be to try to maintain a stabilized level for honey prices, at a point where the producer can make a fair profit and all handlers a fair margin, still delivering the honey to the consumer at a moderate cost.

Certainly, 5 cent or 6 cent honey is not exorbitant, and the fault lies not with honey priced thus in carload lots but with our faulty distribution.

—*ABJ*—

Release of Disease Resistant Stock

ELSEWHERE in this magazine appears a report of the progress of the experiment with disease resistance in the honeybee. A report for the year 1939 will appear in a later issue. It will be noted that the percentage of recovery of colonies given a heavy inoculation of American foulbrood has increased from year to year. The 1939 recoveries have been so high as to make it possible to release

Edwin H. Kaercher, 46, died November 4 in Watertown, Wisconsin, following an operation for acute appendicitis. Mr. Kaercher was auditor and office manager for the G. B. Lewis Company. He was a World War veteran and participated in many of the important battles engaged in by the American armies.

Mr. Kaercher was a charter member of what is now Troop K, 105th Cavalry, Wisconsin National Guard, joining in 1929, and rose to the office of captain. He held that rank when he resigned in 1937. In the American Legion Mr. Kaercher was one of the outstanding members and workers and during his many years of service with the Legion he gave his time and attention to its objectives. As an officer of the Legion post, he achieved an excellent record.

He joined the office force of the G. B. Lewis Company in 1912, the year he graduated from high school. Associates in the company joined in paying tribute to his ability and his fine record. He is survived by his wife, two daughters, his parents, two sisters and two brothers.

♦

It takes forty pounds of pollen for an average colony of bees to carry on its breeding activities during a single season. So says Frank Todd of the Federal Bee Culture Station at Davis, California. Forty pounds of this pollen would fill twenty-two standard Langstroth combs and if a colony does not have pollen in sufficient amount, its breeding of bees will be seriously handicapped.

Frank Todd has made a careful study and has trapped pollen from the legs of bees. Such pollen has been carefully weighed, classified and preserved so as to eventually determine the best possible way of furnishing to bees the required amount of pollen in territories where a sufficient amount cannot be gathered by them.

This type of work is being done by federal stations in charge of James I. Hambleton, Bee Culture Laboratory, Washington, D. C., and should be encouraged in every possible way by beekeepers.

The Michigan Department of Agriculture, Bureau of Foods and Standards, has issued a set of Rules and Regulations Governing the Sale of Honey (Ruling No. 799) by authority of the Market Director Act. These regulations forbid the sale at retail of extracted honey that does not meet the requirements of U. S. fancy and require that comb honey below the standard for U. S. No. 2 must be marked "Cull." The net weight must be marked on comb honey—a new requirement in Michigan. Extracted honey in retail packages must be marked "White," "Amber," or "Dark," according to the color of the honey they contain compared to the standard scale of the Pfund honey grader.

These regulations do not apply to the beekeeper offering honey produced by himself direct to the beekeeper.

These requirements are intended to set a standard for the condition of honey on the market. To encourage packing a high quality honey a certified label will be available to those who choose to maintain a high standard under state inspection. It is hoped that the honey market will be improved by the elimination of honey that is not fit and ready for table use and by giving the buyer a chance to know what the package contains. The optional services offered the beekeepers or others in the honey trade are designed to provide an impartial basis for claims to any degree of merit.

The services of the state inspector will be available for inspection of honey in sixties where either the shipper or the buyer desires it. For this a fee will be charged, probably about 2 cents per case. Howard Potter, prominent Michigan honey producer, has been appointed honey inspector for the Bureau of Foods and Standards. His office parallels that of James Gwin, in Wisconsin's Department of Agriculture, where the grading and standardization of honey has been practiced for many years.

♦

A birthday cake is always an event in any family. It was a wonderful event in the big family of beekeepers at the banquet at Sacramento, California, when the birthday of Cary W. Hartman was celebrated by all of those present. Mr. Hartman, in spite of his years, is very active and is ably helped by his son who took care of the secretary's duties for him. During the banquet, Mr. Hartman gave us a demonstration of Indian songs which were marvelously rendered for a person of his age. Many congratulations to you, Brother Hartman, from the entire Bee Journal Staff.

the stock in response to urgent requests of interested beekeepers.

Plans are now under way to make available breeding queens for trial and those interested should write to Dr. O. W. Park or F. B. Paddock, Ames, Iowa or to James I. Hambleton, Bureau of Entomology, Beltsville, Maryland.

Beekeepers buying this stock should not relax their vigilance in dealing with disease, for not all young queens inherit this character. Tests made over and over again do demonstrate that there is far less disease with this stock and that with such bees in the apiary losses are likely to be much smaller.

It will be important to requeen an entire apiary as far as possible with the stock in order to insure best results. Otherwise, young queens mating with susceptible stock will shortly lose much of the resistance in their offspring. It is thought that commercial queen breeders will soon be able to supply queens at satisfactory prices.

Breeding has not proceeded far enough to permit any guarantee as to results, but in view of the high percentage of recovery from disease in the experimental apiaries a confident attitude prevails among the men associated with the project. Time and again they have been able to cure light cases of disease by requeening with resistant stock and thus have saved both bees and equipment that otherwise would have been lost.

The project will be continued in the hope that, by continued breeding, better stock can be secured for the future.

———ABJ———

War Restrictions

READING the European bee magazines, one finds vivid reminder of our own experience during the World War when there was so much difficulty to secure sugar for feeding the bees in time of scarcity of natural stores.

Apparently our European friends are facing again the difficulties which we did during the former conflict. The bee magazines have frequent references to the action necessary to secure sugar when needed to carry the bees through the winter. Food rationing seems already to be necessary with the general expectation of a long war ahead. Mankind seems to learn but slowly. Since war never settles anything nor profits the so-called winner, it is hard to see why more sensible means of solving international problems are not tried.

———ABJ———

Our Honey Plant Test Gardens

HONEY production is becoming more and more a specialized industry centered in a few favored localities. Gone are the days when there are bees on every farm in every section of the country. This is due largely to the special trend toward specialization in agriculture. Because so many of our readers are affected by the changes in agriculture, the American Bee Journal has established test gardens at Atlantic, Iowa for a study of the problems of bee pasture.

It is our purpose to test all important sources of nectar suited to the Midwest and report our findings in this magazine. We are

particularly interested in forage plants which may become important as farm crops and thus provide abundant bee pasture. The beekeeper can hardly plant enough of anything to provide a crop of honey, but he can bring suitable plants to the attention of the farmers of the neighborhood. It takes time to test new crops and takes more time to secure them a place in the agriculture of any region, but in view of the vast changes that have taken place within the past few years we must look ahead if honey production is to survive.

Apparently it is possible to find a major honey plant suited to any part of our country. The problem is to find one which will fit into the farm practice in such a way as to insure its general utilization. Sweet clover has been a source of prosperity for many farmers as well as beekeepers. Suitable plants equally valuable for other conditions might bring back prosperity to the beemen of large areas where little honey is now produced. We hope to contribute something to the solution of bee pasture problems.

—ABJ—

Quantity vs. Quality

IT is not always the man who does the biggest business who makes the largest net profit. This is brought to mind by a statement in a recent issue of Ohio Farmer to the effect that while Ohio ranks eighteenth among the states in acreage of farm land and eighth in the number of farms, yet she ranks fourth in gross farm income.

Of what profit is it to farmers in other states to have the care of larger acreage and to pay taxes on more land if the fellow with the smaller farm gets a larger return? A significant statement is that less than one third of Ohio farms are mortgaged. This indicates a high degree of prosperity for the farmers who are content with a moderate sized business.

Among the beemen of our acquaintance the same thing holds true. The big outfits make a killing when big crops are secured and sold at high prices; but when poor seasons and low prices come, the profits of good years are consumed by expenses. The man with enough bees to occupy him fully and yet permit time to attend to all details carefully seems to go ahead constantly and safely, with a minimum of worry. At the end of a ten year period he is likely to be found with a larger net gain than that of the man who tries to carry too big a load.

The late C. P. Dadant frequently quoted an old world proverb: "He who goes slowly goes safely, and he who goes safely goes a long time."

—ABJ—

A Big Crop

THE July Bee World features the story of the big crop of honey annually produced by George N. Polhemus, of Ames, Iowa. In 1938, 21,000 pounds were produced by 50 colonies, a record not often equalled. Mr. Polhemus is especially fortunate in his location where a normal flow from biennial sweet clover is followed immediately by a similar flow from Hubam. Full credit should be given to the fact that he is an expert beekeeper with an efficient system of management but his unusual location should not be overlooked in an evaluation of his success.

The thirty-eighth annual report of the Illinois State Beekeepers Association for 1938 has just been mailed by the secretary, Hoyt Taylor, Pleasant Plains. It contains principally a stenographic report of the annual meeting held in the fall of 1938, together with all the papers and addresses delivered there. There is also a complete secretary's and treasurer's report of the year's activities, as well as the annual report of the state bee inspector, Carl Killion. This is followed by individual reports of the deputy inspector, covering various parts of the state.

Approximately 70,000 colonies were inspected in the state, of which 6 per cent showed American foulbrood disease. The greater percentage apparently is brought about by the heavy infection, particularly in the Illinois Valley and western areas. The eastern, southern, and northern sections of the state are in excellent condition as far as American foulbrood is concerned. In 1939, with this in mind, Inspector Killion has concentrated considerable efforts on the central and western areas.

The report contains the state law, the code of rules for judging exhibits at the state fair. It is a 125 page book, cloth bound, and is available, we believe, to Illinois beekeepers and perhaps to others on application.

♦

Being great grandfather is usually no joke because by that time, one arrives at an age where very few things seem of much importance. George W. Bohne, of Louisiana, however, is proud to be great granddaddy at the age of sixty-three. George tells us that at the age of twenty-three, he became a father, at forty-three a grandfather, and now at sixty-three, great grandfather. Mrs. Bohne and her daughter were also present at the Sacramento meeting. George, Mrs. Bohne looks younger than you do and the daughter might be taken for sweet sixteen. Congratulations to the whole family!

♦

Our good friend, H. M. Krebs, Chief Inspector of California, is a most fortunate man. Not being satisfied with having a queen in Mrs. Krebs, whose delightful personality and whose activity in honey publicity is well known, he also has a young queen in his daughter, Ruth Krebs, who delighted the audience at Sacramento on Tuesday evening, November 7, with music on the harp. H. M., we congratulate you!

JOHN H. LOVELL

NOTES ON THE LIFE AND WRITINGS OF THE MAINE NATURALIST

On August 2, John H. Lovell, of Waldoboro, Maine, died at the age of 78 years. Mr. Lovell was a naturalist who devoted a large part of his life to the study of the relationship between flowers and insects. He added much to our knowledge of the wild bees of New England and the part they play in the pollination of the flowers of that region. Many readers of this magazine who knew him through his writings will feel a sense of loss in his passing.

—F. C. P.

IN 1913, John H. Lovell, of Waldoboro, Maine, made his debut in the American Bee Journal with a note on Spanish needles. Mr. Dadant sent him specimens of this plant to identify. After examining the plant he found that one of the species differed from the usual form of **Bidens aristosa** described in Gray's Manual in that the spines on the fruit were downwardly instead of upwardly barbed. He therefore submitted the specimens to Prof. M. L. Fernald, of the Gray Herbarium, at Harvard University, for confirmation. Fernald agreed with the identification, expressed interest in the reversed position of the barbs and said that he expected to describe the variation as a new variety of **Bidens aristosa** in the near future. Thereafter Mr. Lovell's articles appeared in the American Bee Journal with great regularity for the next twenty-four years, the last one, entitled "The Lowbush Blueberry as a Honey Plant," being published in October 1937, only a year and a half before his death (a total of 41 articles from his pen having appeared).

John H. Lovell at about fifty-five years of age.

While a student at Amherst College, young Lovell had become much interested in science. He made a collection of the plants of western Massachusetts which is still preserved and a collection of minerals from various parts of New England. Due to his excellent record he was selected to represent the Biology Department in a contest and was elected to Phi Beta Kappa. He was also offered a position in the United States Weather Bureau which he did not accept.

Upon his graduation at the age of 21, he took up teaching for several years. This was interrupted by the illness and subsequent death of his father, Harvey H. Lovell, a retired sea captain. At the age of 28 he now found himself the possessor of a large home and an income which in those days was ample for his needs.

After several years of miscellaneous reading and study in the fields of literature, history and science, Mueller's book, "The Fertilization of Flowers," directed his attention to the study of pollination. He now took up the study of flowers and their insect visitors and pursued it with boundless enthusiasm for the rest of his life.

In 1899 he married Lottie Magune. Her sympathetic interest in his work proved a big stimulus to his studies. She assisted him in collecting, labelling and cataloguing his insects. She also typed nearly all his notes and manuscripts. They had two sons, Harvey Bulfinch and Ralph Marston Lovell.

Based upon original observations, Lovell had begun in 1897 a series of articles in Botanical Journals upon the pollination of flowers in which he described for the first time the intricate floral mechanisms and life histories of many Maine flowers. Finding it difficult to get the wild bees accurately identified, he began to publish in 1901 a series of articles in Entomological Journals upon the wild bees of the eastern states in which many species new to science were described and the known range of many other species greatly extended. This work naturally led to a great interest in the honeybee and nectar collection. He firmly believed that the pollination of flowers is the most important phase of agriculture. Spurred on by the curious beliefs of Felix Plateau, the Belgian scientist, that honeybees do not see color and that colors are of no advantage in attracting bees, Lovell published a series of articles upon the sense of vision and flower-visiting habits of the honeybee in which he presented experimental proof that bees can distinguish colors. He trained bees to visit a certain colored slide on which odorless sugar syrup had been placed. This slide was then transposed with a variety of other colored slides lacking sweets. The honeybees were found to ignore all colors except the one to which they were trained, no matter how much he mixed up the colors. Blue and yellow were found to be the colors to which the bees showed the greatest fidelity. He had previously found that the removal of the petals from a flower greatly decreased the number of insect visits even though the nectar was still present.

In 1913, at the recommendation of Dr. E. F. Phillips, of the Bureau of Entomology, at Washington, he was selected to write the biological articles for "A. B. C. and X. Y. Z. of Bee Culture." He continued to be the biological editor for several successive editions, contributing some seventy-eight articles comprising about one fifth of the volume.

In 1918 he published his first book, "The Flower and the Bee, Plant Life and Pollination," in which he assembled in popular form the observations of twenty-five years of field work. The book was illustrated by 120 photographs of flowers which Lovell had taken natural size. The

pictures have been frequently praised for their wealth of detail, the parts of the flower being shown with almost diagrammatic clearness. These pictures were the result of many experiments with various kinds of photographic plates and with various methods of photographing the flowers. He always did all his own developing and printing, believing that no one unfamiliar with the ecology of the flower could be able to bring out the exact details wanted.

In 1926 appeared "The Honey Plants of North America," a book describing the honey plants and conditions of beekeeping in all parts of the United States. This book was the result of three years' continuous

The bunchberry, the ecology of which was first described by Lovell.

work, all data in the book being carefully checked by personal observation and by correspondence with beekeepers in all parts of the country.

In the spring of 1926 he began the publication of a daily series of illustrated articles in a large Boston paper, a series which was continued through many successive summers until the total number of articles reached nearly a thousand. Similar series were published in newspapers in Maine and Louisville, Kentucky. The articles consisted of a description of the flower, its life history, insect visitors, economic uses, and curious stories, myths and folklore connected with it. Each article was accompanied by one of his photographs. The articles interested many people, judging by the reports received. Many schools used them and many people of all ages cut them out for their nature scrap books.

In his second article in the American Bee Journal entitled "Flowers from which Honeybees cannot Obtain Nectar" (1913), he discussed bumblebee flowers and butterfly flowers in which the nectar is so deeply concealed that honeybees cannot reach it, and wind-pollinated flowers such as corn which do not secrete nectar. This article was followed in quick succession by articles on "The Signals of White Clover" (November 1913) and "Our Wild Bees" (June, 1914).

Extensive experiments upon the vision of the honeybee which were mentioned above led to the discovery that bees will ignore white or light-colored objects but will furiously attack and sting a black or red one. "Bees and the Colors of Clothing," (September 1914). Mr. Lovell appears to have been largely responsible for the adoption of white uniforms by beekeepers.

The United States was divided into nine honey regions based upon the leading honey-producing plants. The distributions of these plants as determined by soil, temperature, elevation and rainfall were discussed "Honey Plant Regions of North America," (April, 1917).

Planting the common pussy willow near bee yards as a spring pollen plant was recommended to stimulate early brood rearing. Lovell decided from all the evidence which he could accumulate, that pollen substitutes are detrimental to the colony. With the exception of parts of Florida, beekeepers in the United States fortunately are not handicapped by pollen famines ("Pollen and Pollen Plants," March, 1918).

Plants secrete more nectar at high altitudes. Alfalfa for example in Kansas is a major honey plant only at altitudes above 1000 feet. Since high latitudes produce similar effects on many plants, it would seem to be the intense light during the day and the cool, moist nights rather than lower barometric pressures which cause this increase of nectar secretion at high altitudes ("Altitude and Nectar Secretion," December 1921).

In a series of three articles, Lovell next discussed soils in relation to the distribution of honey plants for the readers of the American Bee Journal ("Soils and Plants," January and February 1923; "Plants which Require Acid Soils," June, 1923). Some plants such as alfalfa and sweet clover require a lime soil, others such as the sweet pepperbush, heathers and blueberries require an acid soil, and still others thrive in saline locations as the black mangrove and the sea grape.

How bees are attracted by the odors of flowers was discussed in a series of articles in the American Bee Journal. All the evidence from experimentation and observation, according to Lovell, shows that the sense of smell in bees is located on the antennae. Flower odors were classified in eight groups. The sense of smell in bees is similar to that in man; they notice the same odors and in the same general order of intensity. While most bee flowers have an agreeable scent, bees will visit such ill-scented flowers as rabbitbush, tree of heaven, and tarweed, if nectar is available. ("Relation of the Sense of Smell to the Odors of Flowers," July, 1923; "Classification of Flower Odors," August, 1923; "The Relation of the Honeybee to the Odors of Flowers," October 1923).

K. von Frisch's remarkable discoveries were translated from the German by Lovell and the dances of the honeybee after its return to the hive were described in English for the first time in the American Bee Journal. ("The Odor of Flowers as a Means of Communication Among Bees," February 1924).

Rhodora, one of the most beautiful flowers in New England. The photograph shows the stamens and pistils with a clarity typical of Lovell's photographs.

Mr. Lovell next analyzed the origin of swarming in three articles ("Origin of Swarming," November, December, 1925, and January, 1926). He showed that the nuptial flight is entirely distinct from the swarming flight, the latter being an instinctive action usually brought on by overcrowding in the brood chamber, and its purpose is to perpetuate the colony and thereby the race. Strains of bees which did not swarm in nature would eventually disappear leaving only those which swarm freely. By tracing the development of swarming step by step through the lower groups of wasps, bumblebees and other insects, its true status is revealed.

Extra-floral nectaries are of no known use to plants except in a few cases where they are located close enough to the flowers to aid in pollination and in the pitcher plant where they lure insects to their destruction. Many common plants such as the bean, partridge pea, cotton, tree of heaven, peach, and vetch have such

nectaries. The partridge pea has very active leaf nectaries from which honeybees secure thousands of pounds of honey. Nectaries occur on the underside of the midrib of the leaves of cotton as well as in the flowers. In Texas bees store thousands of pounds of honey from the leaf of nectaries. The origin of extra-floral nectaries can be traced from water pores. ("Extra-floral Nectaries," March and May, 1928).

When legal action was brought against a beekeeper for damages to hot house flowers supposed to have been perpetrated by honeybees, Lovell wrote "A Plea for the Honeybee" (March, 1935) in which he found to be the chief pollinators. ("The Lowbush Blueberry as a Honey Plant," October, 1937).

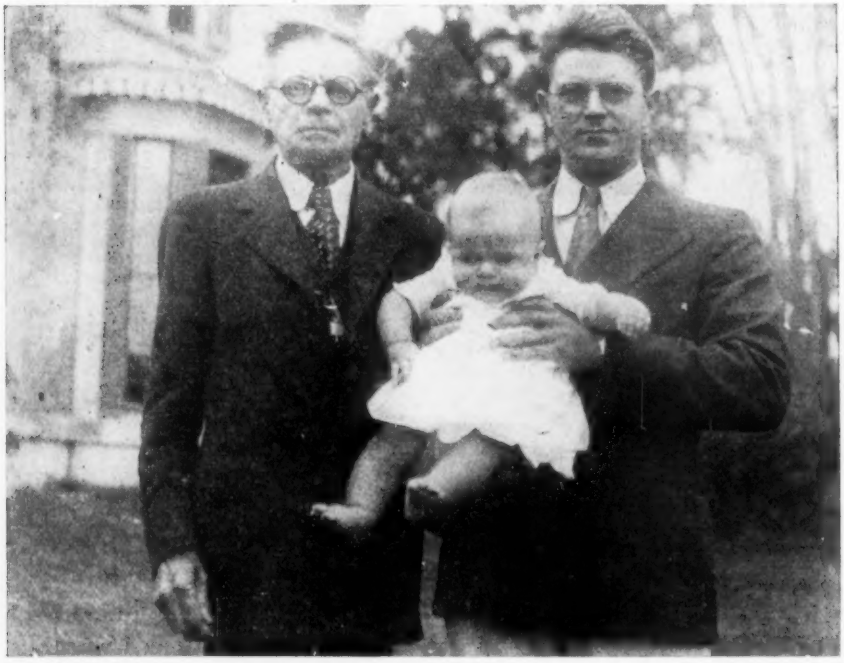
In 1921, Frank C. Pellett, then Associate Editor of the American Bee Journal, visited Lovell in Waldoboro and wrote an account of his visit entitled "The Maine Naturalist" (February, 1922). He emphasized the ideal surroundings of the Lovell home, which is located on the banks of an attractive stream only a few minutes' walk from woodland, pond, swamp, and marine habitats. He described Lovell as one of the last of the field naturalists, men who were interested in how animals and plants lived and behaved in their natural surroundings.

Such visits were very stimulating to Lovell who lived much of his life isolated on the Maine coast hundreds of miles from his colleagues. He kept in touch with them chiefly through correspondence. He subscribed to most of the entomological and botanical journals and was the recipient of thousands of reprints and bulletins from scientific workers both in America and in Europe.

In spite of his many scientific and literary interests, Lovell managed to find time for many hobbies and diversions. In his younger days he was a devoted cyclist beginning with the old highwheel model. He took up tennis at the turn of the century and soon became very proficient with the racquet. He continued to play until his 74th year at which time he was still able to defeat his daughter-in-law.

He owned and operated a motor boat for several years and greatly enjoyed cruising among the islands which dot the Maine coastline. He also liked swimming and rarely missed his daily dips in the river back of his house, often continuing until the first ice began to form along the shore.

Although suffering from high blood pressure during the last years of his life, Lovell still continued to work on bees and pollination with youthful enthusiasm and was full of plans for the future. His last technical article, "Pollination of Verbena Hastata," and a newspaper article appeared in print after he was confined to the hospital in his last illness.



Above—John H. Lovell with his son, Harvey and his grandson, John H. Lovell II.

Right—Lovell's lifelong home on the Medomak River.

summarized the facts **pro** and **con** the defendant. From long personal observation, corroborated by investigators both in this country and in Europe, he showed that nearly all or perhaps all the supposed damage was committed by bumblebees. Over 300 species of flowers have been listed which have had their flowers perforated by the bumblebees. The mouth parts of the honeybee are not adapted for biting holes in flowers. Therefore the honeybees must be innocent.

In his final article in the American Bee Journal, written in collaboration with his son, Lovell describes his experiments on the lowbush blueberry. When plants were screened from insects, no fruit was set, indicating that they have to be cross-pollinated by insects. Solitary bees, bumblebees, and honeybees were

A Glimpse of the Green and White Mountain States

By M. G. DADANT,

Illinois.

IN a three or four day trip nothing like a survey could be made of the two states of Vermont and New Hampshire. Yet perhaps a few observations from such a trip, made at the end of my New York visit already reviewed, may not be amiss.

Commercially, Vermont beekeeping is largely confined to the Lake Champlain region, because it is here mostly that there are enough large areas of cultivation to yield forage in amounts to encourage large scale beekeeping. Here the crops are similar to those in New York State, except that much less buckwheat is grown. The clovers are the main source, aided by fruit trees, goldenrod, and fall flowers.

A day spent with Charles Mraz was very interesting. Our readers will recall him as the state apiary inspector for Vermont and the champion of efforts to breed disease resistant bees. Mr. Mraz is of the opinion that much of our disease trouble—as well as, perhaps, some of our supersedure and similar problems—has been caused by inbreeding. [Page 576.] His bees are, accordingly, hardly an inbred proposition, but the preponderance of blood seemed to be Carniolan, with a slight admixture of Italian. Mraz no longer fears American foulbrood. He gets it in a colony occasionally, but it is either overcome by the colony itself or, if its resistance sinks, he clears up that colony and goes along his way. The bees were storing just a little when I was there. Most of the white crop, both extracted and comb, was off; it was of nice quality.

I think I shall have to go back there soon. Mr. Mraz challenged me to a game of tennis which I was unable to play on account of lack of time. As he is quite an athlete, a skiier of some note, and younger than I, it behooves me to get back before he can learn the game any better if I am to defend Illinois' prestige against that of Vermont!

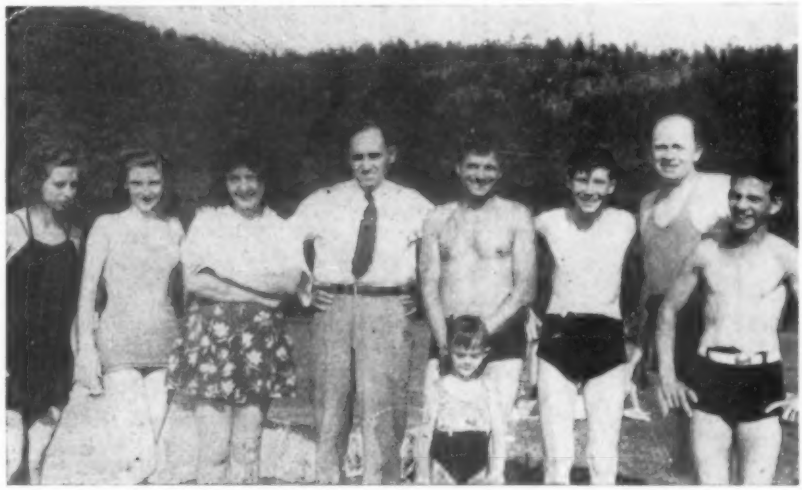
Vermont and New Hampshire do not shine as beekeeping states except in scattered localities. But they do offer an opportunity for small scale beekeeping which will fit in well with small scale, diversified agriculture. And there are delightful vacation spots. I want to go back to be able to spend part of my vacation in those two states.

Both states are preponderantly forested. The trip from Rutland east through the mountains was wonderful. In several places we passed "city forests." Here is a movement that might be profitably copied elsewhere. Many of the cities have an equity in otherwise abandoned land. These areas have been replanted to timber. As a result, instead of worthless land, they have forests many of which, by judicious use, are becoming a source of revenue to the communities who made the plans.

In driving along, one would notice in the timber patches of an acre to several acres or more in which the trees had been twisted and destroyed by winds. These were the remaining evidence of that wild hurricane which covered all of New England except Maine. One person told me that it has been estimated that twenty billion board feet of lumber had been destroyed.

The New Hampshire meeting at Durham was very well attended, mostly by beekeepers having a moderate number of colonies, interested in side line honey production. J. L. Haddock, extension agronomist for the state, stressed the value of improving the bee pasture and told how such a program of soil building must necessarily be a part of any satisfactory farm program. J. R. Hepler, state horticulturist, gave some of his data on introduction of package bees. In the afternoon a report was given of the inspection work by Mr. Barton. There is very little disease in New Hampshire.

When one travels the far West, one is struck by the great expanse of desert or near desert. When one goes to Vermont and New Hampshire, one is struck by the hundreds of miles of forests in contrast to the small areas of cleared and cultivated land. In either region the beekeeping must be limited—in the West to the irrigated sections, in the East to the limited forage available. Perhaps more diversification, such as must be practiced in New England agriculture, might be better for most of us.



Maurice Dadant with Mr. and Mrs. Charles Mraz and little Billy. The others are Clyde Wheeler, of Ohio, and some of his gang.

National Beekeeping Conference

American Honey Producers League

The 1939 National Conference took place at Sacramento, California, November 7, 8, and 9. It was a wonderful meeting and run only as Californians seem to be able to run meetings of that kind. "Sunny California" certainly lived up to its name during the four or five days that beekeepers were congregated at Sacramento. Beekeepers from twenty-one states were present and at no time did interest lag.

The American Honey Producers League, presided over by Geo. W. Bohne of Louisiana, did the honors for the League. He was ably helped by Thos. C. Burleson, the vice-president, and by that dean of beekeepers, Cary W. Hartman, secretary of the League.

J. E. Eckert and H. M. Krebs seemed to be everywhere at the same time and it was under their directions that the meetings were run smoothly and to the satisfaction of everyone present.

The addresses given by notables in beedom were many and very interesting. They were too numerous to permit of even a brief summary in this issue. Some of these addresses will be presented later in the columns of this Journal.

However, California should be complimented for the work of its beekeeping officials, including those who are working in California under the direction of the Federal Bee Culture Laboratory at Washington, D. C. The extra fine work being done by Frank Todd on pollens and by George H. Vansell on nectar concentration of honey plants, are of more value to the industry than many of us can possibly realize. Other addresses by some of our government men consisted of an address by G. P. Walton on the use of honey in making jams, jellies and candied fruits; a presentation of the problems in honey marketing by Harold J. Clay of the marketing service and two most interesting talks by our good friend, Jas. I. Hambleton, in charge of the Bee Culture Laboratory at Washington, D. C.

One of the most interesting addresses was that of Claude R. Kellogg, of California, who gave an account of "Recent Experiences with Chinese Bees and Beekeeping."

The banquet on Wednesday evening was one of the best, if not the best, ever put on for a beekeepers' meeting. Not content with furnishing a high-class program on beekeeping, those present were entertained by a wonderful concert during the banquet hour and this was followed by talks by some of the notables with Roy S. Bishop in charge as toastmaster.

The American Honey Producers League, in business session, named the following officers for 1940. President, T. C. Burleson, California; Vice-President, John Holzberlein, Colorado; Secretary, Lewis Hines, Omaha. Director for District No. 1, W. W. Osborn; District No. 2, H. C. Herndon; District No. 3, Lewis M. White; District No. 4, T. W. Burleson; District No. 5, Morley Pettit.

L. A. Coblentz, of Red Lake Falls, Minnesota, was elected life member to the League. Mr. Coblentz is probably the dean of American comb honey producers, having produced honey in Colorado, Idaho, South Dakota and now in Minnesota. His product is outstanding and with his two daughters, son-in-law and grandson, probably produces more comb honey than any other producer in the United States.

Omaha was decided on as the place for the 1940 meeting.

Meeting of Board of Directors of American Honey Institute

The Board met on November 8, 1939, at Hotel Senator, Sacramento, California, with M. S. Stone, chairman, presiding. A quorum consisting of M. S. Stone, A. G. Woodman, L. W. Parks, Harry E. Ingalls and L. C. Dadant were present and with J. T. Calvert representing M. J. Deyell as secretary.

A full report of the Director, Mrs. Harriett M. Grace, was read and approved. This included financial report as well as report of accomplishments during the past ten months. While the financial conditions of the Institute is satisfactory, more funds are needed to enlarge the scope of the work being done. There are constantly demands coming into the office of the American Honey Institute which cannot be met because of lack of funds.

One of the outstanding accomplishments of the Institute during the past year has been nation-wide broadcasts in which honey was not only mentioned but featured. Such broadcasts would have cost beekeepers thousands of dollars, whereas contributions to the Institute fund amount to less than $7,000.00 annually.

Large quantities of printed materials such as recipes, booklets, etc., have been distributed and the demand for information from the Institute is constantly growing.

A full financial report of the Institute and its work during the year will be published immediately after January 1 and distributed to all the supporters of the Institute.

The following officers and committees were elected for the coming year:

Chairman—L. W. Parks, Watertown, Wisconsin.

Vice-chairman—A. G. Woodman, Grand Rapids, Michigan.

Secretary-treasurer—M. J. Deyell, Medina, Ohio.

Directors for three years—M. S. Stone, Utah, V. G. Milum, Illinois.

Directors for two years—A. G. Woodman, Michigan, M. J. Deyell, Ohio.

Directors for one year—R. E. Foster, Florida, L. W. Parks, Wisconsin, Harry E. Ingalls, Wyoming, H. M. Krebs, California, L. C. Dadant, Illinois.

Finance Committee—V. G. Milum, Illinois, H. M. Krebs, California, A. G. Woodman, Michigan, E. T. Cary, New York, J. W. Holzberlein, Colorado.

Executive Committee—L. W. Parks, V. G. Milum, M. J. Deyell.

Honey Utilization Committee— H. S. Paine, G. P. Walton, R. E. Lothrop, Dr. P. Mabel Nelson, M. G. Dadant, E. R. Root, Mrs. Ethel Krebs, Miss Mercedes Cranston, Mrs. Harriett M. Grace.

The convention on Wednesday morning, November 8, devoted its session to the American Honey Institute with M. S. Stone presiding. Lewis W. Parks, of the G. B. Lewis Company, Watertown, Wisconsin addressed the assembly, the subject being "The organization, management and future possibilities of the American Honey Institute." Mr. Parks is really the "daddy" of the Institute and has been in close touch with it during the eleven years of its existence. It is truly fitting that he again be made chairman as he is located within easy reach of the Institute offices at Madison, Wisconsin.

C. E. Lush, of Orange, California, gave a report on the "California Honey Promotion Committee." This committee has been very active in securing support for an advertising program for honey which includes the support of the American Honey Institute.

Mrs. Harriett M. Grace's report was quite complete and her talk received enthusiastic approval by all of those in attendance. Certainly Mrs. Grace is conducting the affairs of the Institute in a manner that calls for the support of the Institute by the entire beekeeping fraternity.

California is very fortunate in

having a law which will permit any group of producers to petition for a tax on their product for advertising purposees. If this is accomplished, then the tax is assessed and the article sold must pay a tax under penalty of a fine for failure to do so. Such a move would be of great importance to the honey industry in California, as well as to the rest of the states and no doubt many of them would follow this example.

It has always been a problem to finance the American Honey Institute as so far all contributions have been entirely voluntary. Many beekeepers have the good intention of supporting the Institute but simply fail to put their name on the dotted line.

The American Honey Institute needs the support of every producer in the U. S. A. Dollars contributed to the Institute mean hundreds of dollars' worth of advertising in return.

Meeting of Apiary Inspectors of America

The Apiary Inspectors of America met at luncheon on Tuesday, November 7, with H. M. Krebs, vice-chairman, presiding. The chief topic of discussion was in regard to a proposed uniform inspection law for the United States. As proposed copies of the law had failed to reach most of the inspectors present, the discussion of this subject could only be superficial. Final action on such a law was postponed until the 1940 meeting.

For 1940, the following officers were elected: H. M. Krebs, California, president; F. B. Paddock, Iowa, vice-president; Clay Lyle, Louisiana, secretary- treasurer.

L. C. Dadant.

—ABJ—

Cookies and More Cookies

A Review of Recipes From Many Nations

By STELLA LAUNER GILL

"COOKIES and More Cookies," (by Lois Lintner Sumption and Marguerite Lintner Ashbrook, The Manual Arts Press, Peoria, Illinois) is a delightful addition to recipe books, especially for the person who is interested in something different. It was a regular gold mine to me because of the honey recipes it contains. Here are recipes from twenty-eight different countries, showing the universal sweet tooth of mankind, regardless of race or nationality.

There are about three hundred recipes for cookies in the book, not including those for icings and fillings.

As children, the authors were allowed to cook and bake in the kitchen making real things to eat, so they did not need to rely upon the proverbial mud pies for their play. As a consequence, their hobby became gathering cooky recipes from all possible sources. Every recipe in the book has been personally tested by the writers.

Their comments about honey are interesting. They say, "Some of the honey and molasses types are much better after they are a week or two old, so when company is coming get the cooky dough ready, for immediate and later consumption." In the introduction to the Hebrew recipes, they say, "Outstanding is the great use of honey, which we might expect since it is a sweet which is older than the Bible itself, and a good one too, as it makes the cookies keep a long time." In comparing cookies of foreign countries with our American cookies, they say, "The texture is hard and compact in comparison to the fluffiness of most of the American

Mrs. Gill

varieties." However, they suggest that tastes for different and unusual cookies can be cultivated.

The concluding paragraph of the book suggests a use for honey in connection with fruit and nut decorations. "This must be done before the cooky is baked and it is an excellent way to dress up a cooky. Arrange on each, such things as whole or finely chopped nut meats, candied peel, raisins, currants, coconut, plain and colored sugar, or slices of fruits such as figs, prunes and apricots. If the dough is not moist enough to hold the decoration, put a drop of water, honey or syrup where the decoration is to be."

Ten or twelve of these different foreign recipes baked, make an interesting exhibit. Schools having domestic science departments could stimulate the interest of the social science studies, especially when studying some particular country by having a cooky baking instead of the regular class session some day. An invitation to a "Cooky Shine," an old name for a tea party, would create and arouse interest. At this party the guests could make the cookies themselves, or have them served with tea and coffee after the regular bridge or program.

(On the following two pages, Mrs. Gill gives six recipes selected from the book "Cookies and More Cookies." Each recipe was carefully followed in Mrs. Gill's kitchen and the photograph of each cooky, accompanying the proper recipe, was taken by her son, Stanley. If space permitted we would be quite willing to devote at least two more pages to the remaining pictures and recipes which Mrs. Gill and Stanley have furnished us. But to crowd one issue with good things for the Christmas table might delight the ladies and bring chagrin from their husbands. Try the six recipes on the next two pages and you will add zest to your Christmas table.

Beekeepers are fond of clinging to the old habit of offering honey for its own sake, to be eaten by John Public on his biscuits and bread. Some bright lad some day will merchandise all his honey in products which will be consumed because those who eat must come back for more. Now turn the page, please.—Editor.)

Nurnberger *Germany*

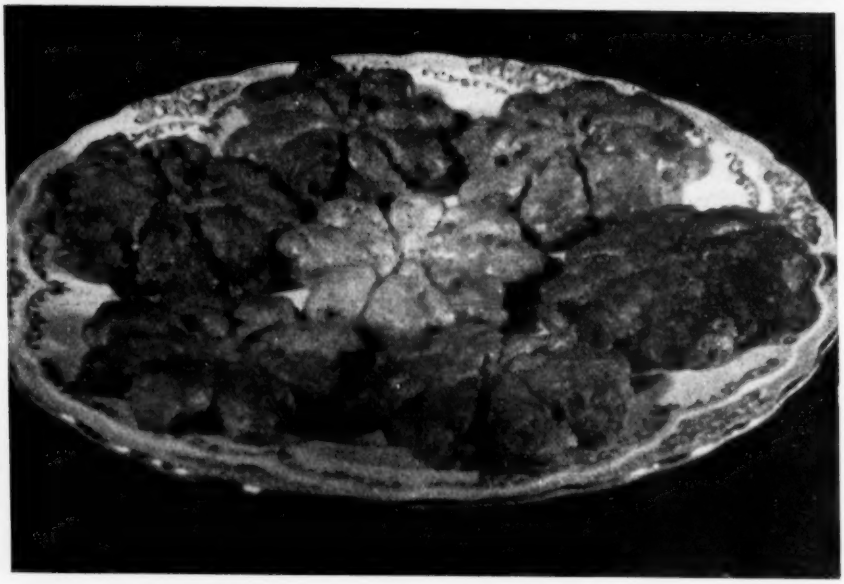
1c. honey
¾ c. B. sugar
1 egg
1 T. lemon juice
1 t. grated lemon rind
1 t. grated orange rind
2⅛ c. flour
½ t. soda
1½ t. cinnamon
½ t. allspice
½ t. cloves
½ c. chopped citron
½ c. chopped nuts
Whole blanched almonds and pieces of citron for decorating.

Bring the honey to a boil. Remove from the fire and add the sugar. Cool thoroughly. Add the beaten egg, lemon and orange rind. Sift the dry ingredients. Add the finely chopped fruit, then add all to the honey mixture. Form in two long rolls three inches in diameter. Let stand in a cool place all night. In the morning slice into thin rounds and decorate each with the almonds and citron to imitate the petals of a daisy. These nuts and citron must be stuck on to the cooky with a drop of honey, otherwise they will fall off after baking. Bake on a greased cooky sheet in a moderate oven 15 mnutes. Let them ripen at least a week.

Everlasting Cakes *Germany*

2 c. sugar
½ c. honey
1 c. milk or water
1 c. chopped nuts
½ c. chopped citron
½ t. soda
½ t. cinnamon
1 orange rind, grated

Boil the milk, sugar, and honey for 15 minutes, stirring often. Remove from the fire and add the nuts, oranges and spices. Stir in as much flour as possible with a spoon. Let the mixture cool half an hour, then add the soda. Add enough additional flour to make a stiff dough. Let it stand overnight, or longer, in a cool place. The longer it stands, the less sticky it will be. Roll out one-third inch thick. Cut in fancy shapes, and bake on a greased cooky sheet in a moderate oven 10 minutes. These will keep a year, if you let them!



Honey Cookies *Hebrew*

¼ c. honey
¼ c. sifted C. sugar
½ c. unblanched, chopped almonds
½ c. flour
1 T. chopped citron
1 lemon rind, grated
⅛ t. nutmeg
⅛ t. cloves
½ wine glass brandy (2 T.)

Warm the honey and the sugar. Work in the rest of the ingredients. Chill one week. Roll one-half inch thick, cut, and bake on a greased cooky sheet in a moderate oven 15 minutes. These are crisp when baked, but soften and are better as they stand.

Honey Candy Slices *China*

2 c. graham cracker crumbs
1 t. almond flavoring
1 c. finely cut dates
½ c. coconut
1 c. marshmallows, cut fine
½ c. chopped, preserved or maraschino cherries
¼ c. finely chopped preserved ginger
¼ c. honey

Mix all, adding the cracker crumbs last. Form into long rolls, and chill overnight. Roll in B. sugar and chopped coconut. Slice thin, and bake on a greased cooky sheet in a moderate oven 15 minutes, but watch to prevent burning. These are very sweet, but tasty with tea.

♦

Tayglech *Hebrew*

Dough—
1 egg
2/3 c. flour
¼ t. B. P.

Honey Mixture
¼ c. honey
¼ c. sugar
¼ t. ginger
¼ c. chopped walnuts
Finely chopped walnuts for rolling

Mix the egg, flour and B. P. into dough. Knead well. Form into a long roll one inch thick. Slice off thin pieces and drop into the honey mixture which has boiled one minute. Continue boiling until each piece is brown and caramel-looking. Remove from the fire. Drop all the pieces in cold water, and then roll them in the finely chopped walnuts. Put on a board to dry. This sounds impossible, but it is really not difficult. They keep a long time, and are delicious if you like that sort of different thing.

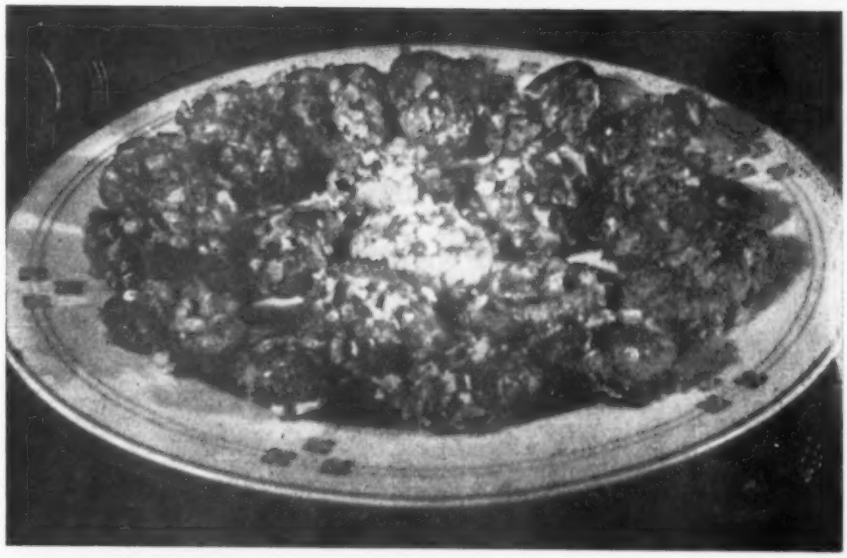


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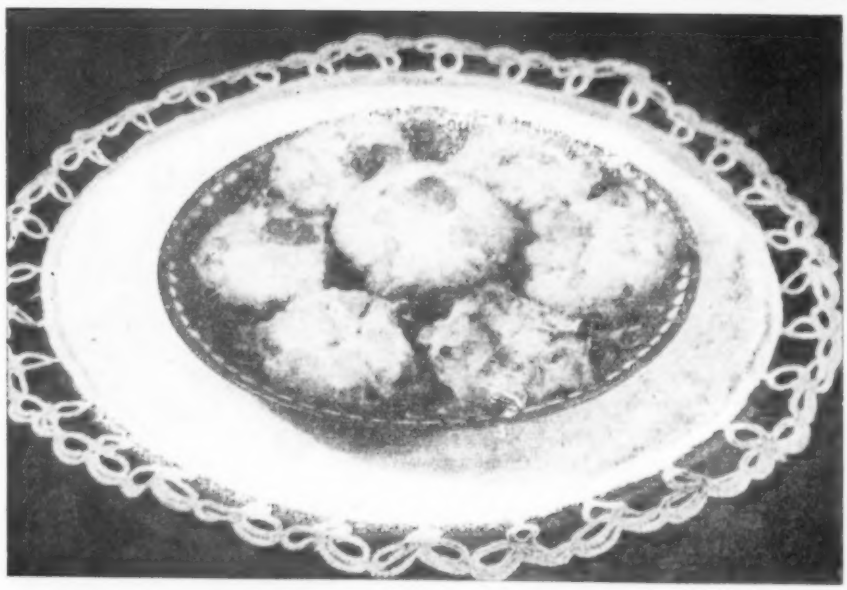
Fig Honey Cookies *Italy*

½ c. shortening
¾ c. sugar
2 eggs
½ c. warmed honey
2 T. milk
2 2/3 c. flour
1 t. B. P.
1 t. lemon extract
1 c. dried, ground figs
2 T. chopped orange peel
½ c. coconut

Cream the shortening and sugar; add the eggs and the honey along with the extract. Add the milk, then the dry ingredients, and last the fruit. Drop on a greased cooky sheet, and bake in a moderate oven 10-12 minutes. These are fine flavored, and healthful as well.



[Six more recipes will be published in the January issue.—Editor.]

A Practical Test of Melana Sweet Clover

Last spring I received from the University of Saskatchewan one pound of their new dwarf sweet clover seed known as Melana sweet clover. After inoculation the seed was sown on May 8.

I got a fine stand, as may be seen from the picture. About August 1 the clover commenced blooming, and it continued to bloom all through September. The blossoms are white and very fragrant. Average height of the plant is about thirty inches. Instead of having one large stem, like the common biennial sweet clover, the plant branches just above the ground into six or eight stems. These stems are not coarse and woody, as are those of the common sweet clover, and are covered with foliage, the leaves extending down to the ground.

As a plant for hay or pasture I believe Melana will rank in first class. I fed some of this clover to the cows. In order to see how they would take to it, I cut a little each day, beginning when the plant started to bloom. They ate it all at any stage. The plants where I commenced cutting first have sent up a new growth and some of it is in bloom again. So it seems to me that a crop of hay might be cut and then the field used as a pasture for a while.

The blooming period of Melana is fully as long as that of the common variety of sweet clover. The bees work it early and late. It looks to me like this will be a great plant for the beekeeper and at the same time make a good crop for the farmer. It bears an immense amount of seed.

I am told this variety of clover is an annual, which may be an objection. However, the good qualities of Melana are so outstanding that it is worth further experiment.

J. W. Peterson,
Washington.

—ABJ—

Emphasis on Color

It was with much interest that I read the editorial in American Bee Journal for October, entitled "Disease Resistance." At last, statements I have been making for the past eight years have been given official sanction, and any question one may have had of my sanity in the past I hope is forgotten. Now that A.F.B. resistance is officially confirmed and resistant stock developed at Iowa, how is the general beekeeper to make use of it when such stock is released?

As I see it, there is going to be one trouble—the great drawback to resistant queens is that they are dark colored and not uniform. This is not insignificant, as you might at first think. Ask any queen breeder the part color plays in the sale of Italian queens; he will tell you that an Italian queen not yellow to the tip is considered a hybrid and is usually returned to the breeder. To break down this idea about queens is not going to be easy.

Pure Italian queens — that is, queens from northern Italy—perhaps most beekeepers will be surprised to know, are not yellow. They never show yellow but are mostly dark brown and black in color, the drones sometimes being coal black. The golden queens we have in this country today are nothing but inbred freaks; they do not exist anywhere in nature. If goldens were not continually inbred for color and uniformity, they would in time revert to the dark original Italian. I believe most queen breeders will agree with me. Most queen breeders will tell you that dark Italians are usually better bees but will add that they do not sell. What's the poor queen breeder going to do?

Before we can get very far with A.F.B. resistant stock, buyers of queens must be educated to buy queens not for their color but for the more important characteristics, such as resistance to disease and honey production. When the time comes that beekeepers can be weaned from bees highly susceptible to disease, A.F.B. will simply disappear of itself from lack of "food" to feed on.

Many of you will be shocked to know how I handle disease. The last I had were three infected colonies in a yard of black hybrids I bought this spring. They were requeened, along with most of the other colonies in the yard, with resistant stock, by grafting. Because of lack of time, I haven't looked at them since—four months ago. It may be that A.F.B. is still present in some of the colonies; they might even die and be robbed this winter. However, I just can't get worried about it. If there is anything wrong, I'll find out next spring and simply repeat the process. You see, I've been getting away with it now for the past eight years.

Most of you, I know, cannot understand such a procedure; but some day soon I hope we may all be as little concerned with A.F.B. as I am now. "Upon the queen depends all there is in beekeeping," and upon her, too, depends all there is in A.F.B. resistance.

Charles Mraz,
Vermont.

—ABJ—

Utah Association

Dissolving of the old Utah Beekeepers' Association in favor of the Utah Honey Producers' Cooperative Association is announced following the close of the annual conclave, November 4, at the Newhouse Hotel in Salt Lake City. The old organization was primarily social in nature, whereas the Utah Honey Producers' Cooperative Association is a live-wire marketing group.

Results of Iowa's 1937-1938 Honeybee Disease Resistance Program [1]

O. W. PARK, FRANK C. PELLETT, and F. B. PADDOCK,

Iowa Agricultural Experiment Station, Ames.

IT may be recalled that our disease resistance program was definitely conceived September 20, 1934, and that active work was begun in the spring of 1935. As you know, the ultimate objective of this line of research is the development of a strain of honeybees that will be highly resistant, if not absolutely immune, to American foulbrood.

By the close of the first season, results (2) were secured which showed that some colonies are far more resistant to this disease than are others. Queens heading colonies that showed exceptional resistance in 1935 were used as breeders in 1936, with the result (3) that one-third of the tested progeny eliminated all symptoms of the disease before the close of that season.

It was concluded, therefore, that resistance to American foulbrood does exist in honeybees, that it is inheritable and that the eventual development of a strain of honeybees highly resistant to this disease appears to be well within the realm of possibility.

The work of 1937, consequently, was centered around selection and breeding. Three of the four colonies used for breeding were headed by line-bred daughters from parent stock tested in 1935, the daughters having been tested in 1936. The fourth colony used for breeding was headed by a four-year-old queen whose colony cleaned up the disease following inoculation in 1935.

Young queens were reared from these four breeders by the Texas Apicultural Laboratory under a cooperative arrangement participated in by the United States Bureau of Entomology and Plant Quarantine, and the Agricultural Experiment Stations of Texas and Iowa, with Professor H. B. Parks of the Texas Laboratory in charge of this phase of the work. All matings were made at isolated stations in a sand hill region where probability of mismating is practically nil.

Three line-bred and six crossbred lines were produced. Queens from each breeding were sent to the Iowa Station, where 114 of them were tested for resistance to American foulbrood. Queens from several of these breedings were tested at the Intermountain States Field Station of the Bureau of Entomology at Laramie, Wyoming, under the direction of Dr. A. P. Sturtevant. While results given in this report are confined to the tests made in Iowa, it may be stated that the tests conducted at Laramie gave results that do not differ essentially from those reported herein. It is expected that the results of tests made at that station will be available to the public by the time this report is published.

Definition of Terms

The terms resistance, negatives, positives, and recoveries require explanation. As used herein, resistance is the opposite of susceptibility, and refers to the ability to combat the inroads of disease. Our experiments indicate that in honeybees the ability to combat American foulbrood varies widely. In some it appears to be lacking altogether while others possess it to a very high degree. It is not yet known whether any possess total resistance, or absolute immunity. Since we are seeking to select and propagate from those strains showing a high degree of resistance in a relatively high percentage of cases, we classify as resistant only those colonies which either eliminate the disease or apparently do not develop it at all following inoculation.

The terms positive and negative are employed to describe the response of a colony to inoculation. Colonies in which Amercian foulbrood is found following inoculation are listed as positives, whereas those which apparently develop no disease are classified as negatives. Recoveries are positives that have eliminated the disease. By combining negatives and recoveries we arrive at a figure which represents those colonies which we consider highly resistant.

As may be noticed by referring to the various tables, the number of queens tested from different matings varied widely. On this account the results are presented largely on a percentage basis in order to permit comparisons to be made on a more nearly equitable basis.

Methods of Testing

Two methods of inoculation were used in 1937, the "comb-insert" and the "syrup" methods. The comb-insert method is the one used exclusively during 1935 and 1936, and consists in removing a rectangular section from the center of a comb of healthy brood and inserting in its place a rectangle of comb containing not less than 75 scales of American foulbrood.

The syrup method was developed by Dr. Sturtevant of the Laramie Laboratory and is based upon experiments (4) from which he determined the minimum number of spores of the causal organism, **Bacillus larvae**, required to produce the disease when fed in a quart of syrup to a normal colony of non-resistant bees. This number of spores, therefore, is known as the minimum infective dose. For the purpose of testing for resistance, Dr. Sturtevant uses and recommends a dosage containing ten times the minimum infective dose. For convenience this standarized dosage may be referred to as "10 M.I.D."

The syrup method appears to possess the following advantages:

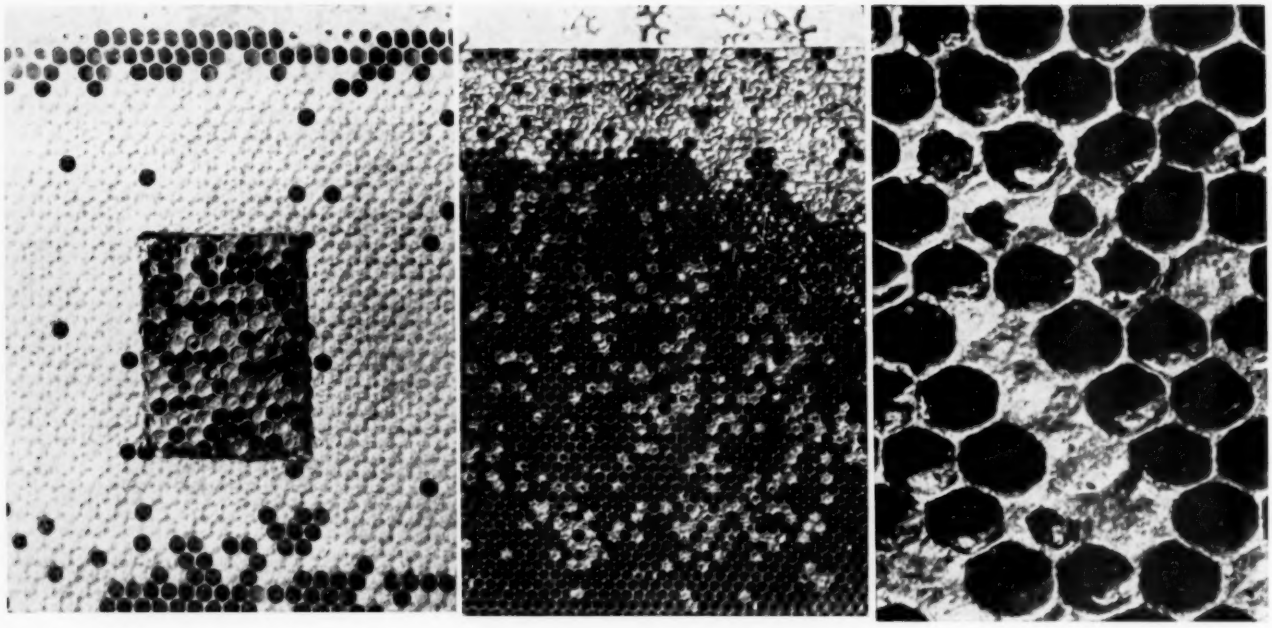
1. The dosage contains uniform number of spores.
2. A composite dosage may be made up of spores procured from numerous, widely-scattered sources some of which may be more virulent than others.
3. Contamination of larval food would appear to be almost certain.

It was considered desirable, therefore, that the syrup method be given a trial by the Iowa Station. For this purpose a group of 50 colonies was established in the spring of 1937 from package bees headed by young queens of resistant stock. Late in July, after some equalization to bring all colonies to a uniform strength of

(1) Journal paper No. J-645 of the Iowa Agricultural Experiment Station, Ames, Iowa. Project 515.

(2) Park, O. W. Results of the 1935 disease resistance program. Iowa State Apiarist Rept., 1935: 49-57. 1936.

(3) Park, O. W., Frank C. Pellett, and F. B. Paddock. Results of the 1936 honeybee disease resistance program. Trans. Iowa State Hort. Soc. 1936: 363-375. 1937.



Left—Inoculations were made by inserting a rectangle of A.F.B. comb in the center of a comb of normal brood. Center—Part of a typical comb of A.F.B. as it developed in susceptible colonies. Right—Section of illustration to the left enlarged to show details. Note scales in open cells, sunken cappings, and cappings with characteristic ragged holes.

about five frames, inoculations were made, using the comb-insert and syrup methods in alternate colonies throughout the entire group.

We are indebted to Dr. Sturtevant for a supply of composite spore-powder made up from American foulbrood scales from 23 different sources. We are further indebted to him for detailed directions for preparing the individual doses. Using all possible care to follow exactly the directions for administering the standardized doses, feeders containing 10 M.I.D. in a quart of 50:50 syrup were given to half the colonies on the evening of July 30, and on the following day inserts of infected comb were placed in the remaining half of the group.

Beginning a week after inoculations were made, each colony was inspected for disease at least every other day for a period of approximately a month, or until American foulbrood was positively identified by microscopic diagnosis. Colonies were examined less frequently following discovery of the disease. A summary of the data secured from the two types of inoculation appears in table 1.

TABLE 1—COMPARISON OF SYRUP AND COMB-INSERT METHODS OF INOCULATION UNDER HONEY-FLOW CONDITIONS

Matings Queen x Drone	Number Tested	Percentages				
		Negatives	Positives	Diseased	Recoveries	Negatives plus Recoveries
Syrup Method						
23 x T4	5	100	0	0	0	100
T4 x T4	11	73	27	0	27	100
T4 x T40	3	100	0	0	0	100
T4 x 23	1	100	0	0	0	100
T40 x 23	5	100	0	0	0	100
Totals						
Number	25	22	3	0	3	25
Percentage	100	88	12	0	12	100
Comb-Insert Method						
23 x 23	1	0	100	0	100	100
23 xT4	5	0	100	40	60	60
T4 x T4	8	12	88	50	38	50
T4 x T40	1	0	100	100	0	0
T4 x 23	5	0	100	60	40	40
T40 x 23	4	25	75	0	75	100
T54 x 23	1	0	100	100	0	0
Totals						
Number	25	2	23	11	12	14
Percentage	100	8	92	44	48	56

As shown in table 1, American foulbrood was found in only three of the colonies inoculated by the syrup method, as compared with 23 of those inoculated by the comb-insert method. Needless to say, these results do not tally with those anticipated.

Naturally the simplest explanation would be to say that some error in technique resulted in the preparation of dosages that were smaller than intended. While it is agreed that this could be the correct explanation, there are reasons why such an explanation in this instance appears highly improbable.

Consideration of this matter from many angles has led to the conclusion that the following facts have an important bearing on the results secured. The experiments from which the minimum infective dose was determined were carried out under dearth, or near-dearth conditions. During the time the above tests were being made, a fair honeyflow was in progress, scale colonies registering daily gains of two to five pounds. So instead of the spore-laden syrup being taken up within a few hours, as would have occurred under dearth conditions, a week passed before the feeders were emptied. Thus it would appear that the incoming nectar probably had the effect of diluting the concentration of spores below the concentration required to

(4) Sturtevant, A. P. Relation of commercial honey to the spread of American foulbrood. Jour. Agr. Res. 45:257-285. 1932.

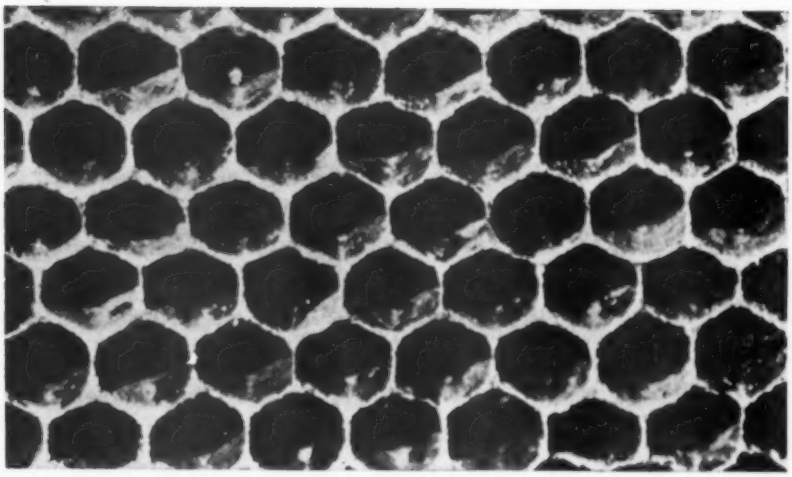
The colony in this hive was inoculated in 1935. No A.F.B. has been found in it during the four seasons that have passed. The original set of combs is still present (page 581, lower illustration).

establish the disease. In this connection it is of interest to note that of the three cases in which syrup inoculation was reported as positive, only two American foulbrood larvae were detected in one colony and just one each in the other two. Such results would seem to follow logically from a greatly diluted concentration of the inoculum.

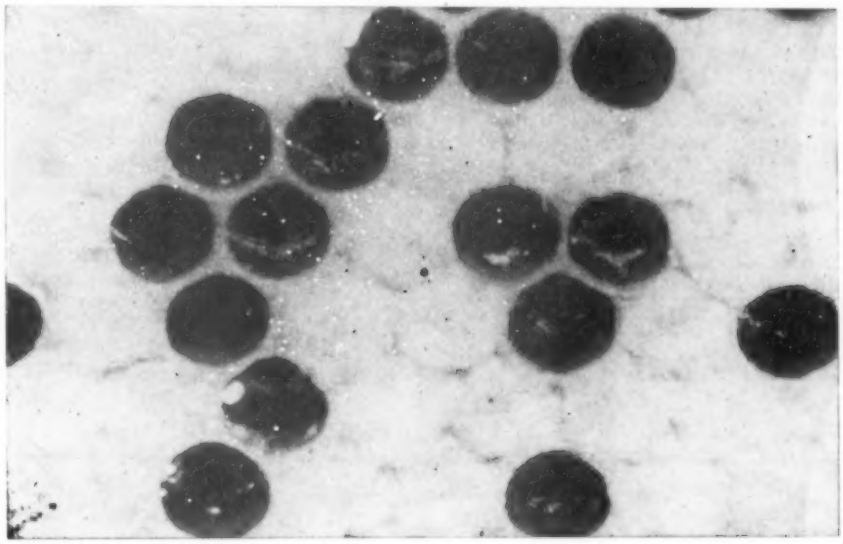
Because of the unexpected and perplexing results secured from inoculations with the standardized spore dosage, further investigations were made on this group in 1938. Such colonies as were still intact and still had the same queen were inoculated by means of comb inserts. A summary of the results obtained is given in table 2.

In comparing table 2 with table 1, it may be observed that the results of the 1938 test lie about midway between those secured from syrup inoculations and those secured by the comb-insert method in 1937. Thus it appears probable that there may have been a greater number of highly resistant colonies among the 25 syrup-inoculated than there were among the 25 comb-inoculated colonies with which they were compared in 1937, yet there undoubtedly were fewer than was indicated by the results of inoculation by the syrup method.

Since nearly half of the colonies inoculated by the syrup method in 1937 were retested the following season by means of the comb-insert method, the results of the latter test should be fairly indicative of the general character of results that would have been secured in 1937 had the comb-insert method been used at that time. On this basis, approximately 80 per cent, or 20 of the 25 colonies originally in this group, should have been resistant.



Many A.F.B. scales were removed from this comb by the bees.



A.F.B. scales in process of removal by bees. Removal begins at the front or "head" end of the scale. Most of the scales in this comb have been nibbled away until less than half of each remains.

The results of the tests reported above should not prejudice the interpretation of results obtained by the use of the syrup method under dearth or near-dearth conditions, but they raise serious doubt as to whether this method can be used with full confidence when inoculations are made during a honeyflow of any considerable intensity. Thus the need of further investigations on methods of inoculation is indicated.

The comb-insert method is not all that could be desired for the purpose of making inoculations, but its use has resulted in producing American

TABLE 2—SYRUP-TESTED COLONIES RETESTED BY COMB-INSERT METHOD

Matings Queen x Drone	Number Tested	Percentages				
		Negatives	Positives	Diseased	Recoveries	Negatives plus Recoveries
23 x T4	4	25	75	0	75	100
T4 x T4	5	40	60	40	20	60
T4 x T40	1	100	0	0	0	100
T4 x 23	0	0	0	0	0	0
T40 x 23	1	0	100	0	100	100
Totals						
Number	11	4	7	2	5	9
Percentage	100	36	64	18	46	82

foulbrood in a high percentage of cases, not only in the comparative test referred to above, but also throughout the many cases in which it has been used by the Iowa Station. It has proved equally effective under honeyflow and dearth conditions. Hence, in spite of certain shortcomings, the comb-insert method has been found fairly satisfactory under Iowa conditions.

Results of 1937 Tests for Resistance

In table 3 the results of all tests made by means of comb inserts during 1937 are summarized for the various matings and also for the entire group.

It may be noted that the percentage of colonies in which American foulbrood developed following inoculation, was relatively high except for the mating T40 x T40, in which the number tested is too small to carry much significance. The percentages representing negatives plus recoveries are fairly uniform except for T4 x 23 and T40 x T40, which deviate from the general trend in opposite directions and therefore tend to balance each other when the average for all matings is determined. Of the total of 89 colonies tested by this method, 56, or 63 per cent, either did not take the disease following inoculation or recovered from it before the close of the season. On the whole line-bred and crossbred matings yielded similar results, although the line-bred matings show up to a better advantage than do the crossbred in the column headed "Negatives."

Of the 114 colonies tested during 1937, 89 are reported in table 3, the other 25 being the syrup-tested colonies reported in the first half of table 1. For the purpose of arriving at the total number of colonies found during the year to be resistant, we consider that 80 per cent, or 20, of the syrup-tested colonies probably were resistant. This number added to the 56 shown in table 3 gives a total of 76, which is 67 per cent of the 114 tested.

Significance of Negative Results

The significance of cases in which the disease failed to develop following inoculation has been difficult to evaluate. Colonies that developed the disease and then eliminated it assuredly possessed resistance, but in the case of those in which the disease apparently did not develop at all, there was no positive evidence that the brood had received sufficient spores to constitute an infective dose, even for a normal colony of non-resistant stock. In this case, both susceptible and resistant colonies would show negative results. Whether negative results can be relied upon to indicate an exceptionally high order of resistance depends, therefore, upon the adequacy of inoculation. But how is this to be determined?

In the belief that useful knowledge concerning the significance of negative results might be secured through breeding and further testing, it was decided to test the offspring of queens whose colonies gave negative results in 1937, in comparison with similar offspring from queens whose colonies developed American foulbrood following inoculation in 1937 but promptly eliminated it. In the former case the daughter queens were mated to drones from "negative" colonies, and in the latter, to drones from "positive" colonies of this same strain. All breeder queens used in this particular study were full sisters. Subsequent tests for resistance, made by the comb-insert method, produced the results given in table 4.

It may be observed that the percentage of negatives found among daughters of negative mothers is more than twice that for daughters of positive mothers. Moreover the percentage of positives that recovered is materially greater in the negative than in the positive lot. The percentage of negatives plus recoveries found for the negative lot is significantly higher than for the positive lot.

These tests appear to indicate that negative results, if based upon adequate inoculation, represent a higher type of resistance than is shown by colonies that eliminate the disease following positive evidence of its development in the colony.

In this connection it seems desirable to state that many cases recorded in the past as negative probably were not so in fact but were so reported either because of our inability to detect the disease in its very early stages or because the evidence of disease had been removed quickly by the workers. We have observed that the bees sometimes remove and dispose of larvae very soon after they die, thus eliminating the evidence.

Through the use of a new technique, we are now able to detect American foulbrood in earlier stages than formerly. Then it was necessary to wait until the spore stage was reached before positive identification could be made, but now it is possible to determine the presence of **Bacillus larvae** in the vegetative stage and before the larva has assumed the brown color and gluey consistency which accompany the spore stage. The use of this new technique will not eliminate all negatives but should be useful in reducing the number of cases to be recorded under this heading.

Results of 1938 Tests for Resistance

The principal efforts of 1938 were again centered around selective breeding based upon tests for resistance and subsequently checked by similar tests. As in the preceding season, the young queens to be tested

TABLE 3—TESTS BY COMB-INSERT METHOD IN 1937

Matings Queen x Drone	Generation	Number Tested	Percentages				
			Negatives	Positives	Diseased	Recoveries	Negatives plus Recoveries
23 x 23	F1	34	24	76	38	38	62
23 x T4	F2	5	0	100	40	60	60
23 x T40	F2	11	9	91	27	64	73
T4 x T4	F2	11	18	82	36	46	64
T4 x T40	F2	3	0	100	33	67	67
T4 x 23	F2	6	0	100	67	33	33
T40 x T40	F2	3	100	0	0	0	100
T40 x 23	F2	10	20	80	30	50	70
T54 x 23	F2	6	17	83	50	33	50
Totals							
Number		89	17	72*	33	39	56
Percentage		100	19	81	37	44	63

*54 per cent of the positives recovered.

TABLE 4—INHERITANCE OF RESISTANCE FROM "POSITIVES" VS. "NEGATIVES"

	Daughters of Two "Positive" Queens		Daughters of One "Negative" Queen	
	Number	Per Cent	Number	Per Cent
Tested	38	100	22	100
Negatives	8	21	10	45
Positives	30	79	12	55
Diseased	13	34	3	14
Recoveries	17	45	9	41
Negatives plus recoveries	25	66	19	86
Recoveries as per cent of positives		57		75

were reared by the Texas Apicultural Laboratory. Most of the queens tested were line-bred. During the season a total of 111 daughters from seven breeder queens, representing three different strains were tested by the Iowa Station.

Table 5 summarizes the results of these tests. It may be observed that, with the exception of the breeding WyS39 x WyS39, the percentages for negatives plus recoveries are in general definitely higher than those obtained heretofore. It is believed that the increase in resistance thus indicated is due to the selection and breeding that has been practiced. The lower percentage of resistant queens found in the breeding WyS39 x WyS39 was to be expected because this is only the first generation of offspring bred from this stock. The fact that half of the queens of this breeding proved to be resistant marks the stock as showing much promise. Most other resistant strains have shown only about one-third of the first generation of offspring to be resistant. After line-breeding has been carried on for several generations, the WyS39 strain should yield an exceptionally high percentage of resistant queens, if it follows the pattern already set by other strains.

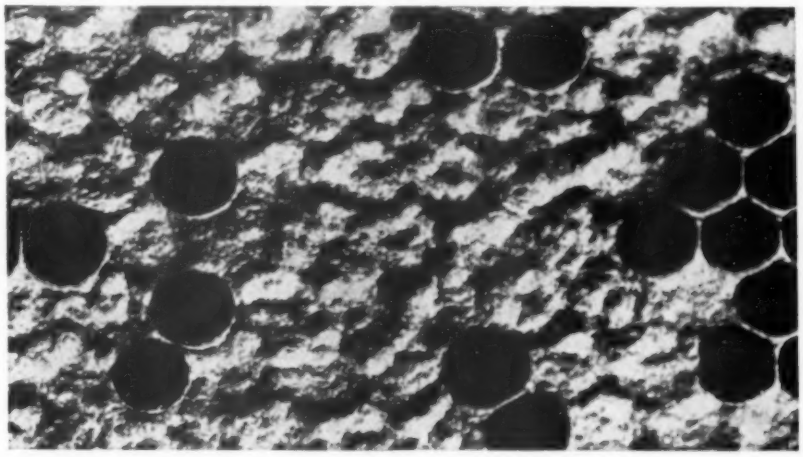
The figures given in the column headed "Recoveries" show the number of recoveries in relation to the number tested. It is of interest to know also what percentage of positives recovered before the close of the season. Such percentages for the several breedings are, respectively, 67, 78, 71, 100, 54, 75, and 39, in the order in which the breedings are listed in table 5.

As already stated, our practice is to list as resistant only those colonies which either remain negative or recover after showing positive evidence of the disease. It seems desirable, therefore, to indicate the status of colonies that still had disease at the close of the season. As shown in table 5, 30 per cent, or 33, of the 111 colonies tested still had more or less disease. On the basis of the amount of disease present, these colonies may be divided into three approximately equal groups, as follows: 9 light, 10 moderate and 11 hopeless cases. As will appear later, those having only light cases in the fall stand a fair chance of recovering the following spring.

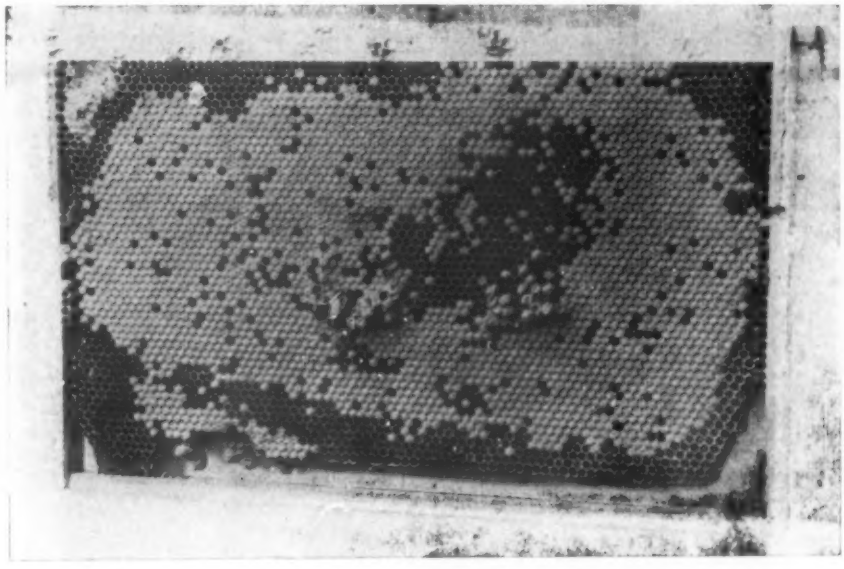
TABLE 5—TESTS BY COMB-INSERT METHOD IN 1938

Matings Queen x Drone	Generation	Number Tested	Percentages				
			Negatives	Positives	Diseased	Recoveries	Negatives plus Recoveries
058 x 058	F3	6	0	100	33	67	67
062 x 062	F3	13	31	69	15	54	85
070 x 070	F3	10	30	70	20	50	80
330	F2	3	33	67	0	67	100
333	F2	35	20	80	37	43	63
339	F2	22	45	55	14	41	86
WyS39 x WyS39	F1	22	18	82	50	32	50
Totals							
Number		111	29	82*	33	49	78
Percentage		100	26	74	30	44	70

*60 per cent of the positives recovered.



Healthy brood in identical cells previously occupied by A.F.B.



Comb of healthy brood from colony shown on page 579. It is the very comb in which a rectangle of A.F.B. comb was inserted in 1935. The inoculation area may still be seen just at left of center.

Recurrence During Second Season

In order to determine to what extent the disease will develop during the second season after inoculation, 37 colonies headed by 1937 queens whose colonies were inoculated by the comb-insert method in 1937, were observed throughout 1938 without further inoculation. The results of these observations are summarized in table 6.

Of the five reported negatives in 1937, all remained negative throughout 1938. Of 17 listed as recoveries in 1937, foulbrood reappeared in five in 1938, but in three of these cases only a few cells developed before the colony cleaned up and remained so throughout the rest of the season, leaving only two cases of recurrence that failed to recover. Twelve of the 17 remained negative in 1938.

TABLE 6—SECOND SEASON OBSERVATIONS ON COLONIES INOCULATED IN 1937 ONLY

Matings Queen x Drone	Col.	Fall 1937	Fall 1938	Matings Queen x Drone	Col.	Fall 1937	Fall 1938
23x 23	209	R	N	T4 x T4	014	D(44)	D rot
	210	N	N		042	D(2)	D(25)
	238	N	N		282	N	N
	258	D(30)	R	T4 x 23	04	D(2)	R
	259	D(11)	R		06	D(37)	D(29)
	310	R	N		020	D(15)	D rot
	311	D(40)	D rot		036	R	rR
	319	D(7)	D adv		211	R	N
	328	D(45)	D adv		219	R	N
23 x T4	032	D(16)	D rot		235	R	rD(100)
23 x T40	325	R	N	T4 x T40	236	R	N
	326	R	N	T40x 23	044	R	rR
	332	R	N		220	D(1)	R
	337	N	N		257	N	N
	340	R	N	T54 x 23	048	D(12)	R
	342	R	N		214	R	rD rot
	350	R	N		283	D(46)	R
T4 x T4	02	R	rR		284	R	N
	08	D(19)	R				

Key: D—Disease
N—Negative
R—Recovery
r—Recurrence
rD—Recurrence without recovery
rR—Recurrence followed by recovery
()—Cells AFB at final inspection
adv—Disease in advanced stage
rot—Rotten with disease

TABLE 7—CUMULATIVE SUMMARY 1935-1938

Year	Tested		Negatives plus Recoveries		
	During Year	Cumulative Number	During Year	Cumulative Number	Cumulative No. as % of Total Tests
1935	25	25	7	7	28
1936	34	59	19	26	44
1937	114	173	75	101	58
1938	111	284	83	184	65

A view in the experimental apiary at the official testing station at the Pellett Gardens, Atlantic, Iowa.

Of 15 diseased colonies, in which the extent of the disease ranged from 1 to 46 cells at the final inspection in 1937, 7 recovered during the following season while in 6 the disease made heavy inroads. The status of the disease remained practically unchanged in the other 2 colonies, which had, respectively, 25 and 29 cells of American foulbrood at the close of 1938, in comparison with 2 and 37, respectively at the close of 1937. The results for the second season after inoculation in this instance was a net gain of 5 colonies in the recovery column. While occasional cases of recurrence are to be expected, it seems probable that the danger from this source is not so great as has been anticipated by some.

Cumulative Summary

The cumulative summary given in table 7 shows at a glance both the extent and progress of testing and breeding for resistance to American foulbrood as carried on by the Iowa Agricultural Experiment Station since this work was begun in 1935.

It is encouraging to note that, as a result of the careful selection and breeding practiced, there has been a constant and significant increase in the percentage of resistant offspring obtained year by year. It is not expected, however, that the increase in resistance will continue year after year at the rate shown thus far. It seems more probable that the nearer the goal is approached, the smaller will be the increases secured.

The prospects now appear good for establishing a strain of bees that will produce resistant colonies in a high percentage of cases, but the problem will not be solved until resistance to American foulbrood has been combined with other desirable characters such as high production and good handling qualities. Years of selective breeding are still ahead.

—ABJ—

Traveling Illini Eat Honey

The University of Illinois football team, enroute by the Golden State Limited of the Rock Island railroad lines to an intersectional game with the University of Southern California, at Los Angeles, on October 14, had honey included in the bill of fare for two days. On the day preceding the game, comb honey appeared in the combination breakfast and lunch along with broiled steak, fruit, cereal and baked potatoes. On Saturday morning at 9:30, preceding the game at 2:30 P. M., the combination breakfast and lunch consisted of sliced orange, cereal, 8 ounces of broiled steak, toast and honey, small baked potato, and tea.

V. G. Milum.

The Case for the Caucasian

By A. F. ABBOT,

Mountain Grey Apiaries,

England.

THE question of suitability of any race of honeybee for use in the British Isles is dependent on several factors, among which are locality, climatic conditions, personal preference; but in one thing all beekeepers are in agreement—the honey yield is of paramount importance.

The honeyflow in the British Isles is so inconsistent, varying so greatly from year to year, that the choice of bee for such arduous duties is worthy of much consideration by the beekeeper who desires to run his apiary on efficient lines.

There are many races of bees available, but in general these may be placed in two main groups—the dark bee and the yellow bee—and, generally speaking, it may be stated that the dark races have their origin in the cold countries and the yellow races in the warmer countries. Both groups have their adherents, but if we are to look for a lead as to which is more suitable to our purpose, we can have no better example than that of our old British native bee. This bee was a dark bee, and from the writings and personal knowledge of the older beekeepers who used this bee, we are left with no doubt as to its merits. Unfortunately, this bee is now extinct, at any rate in its pure state, and we have to face the fact that it is no longer available.

In our opinion, this native dark bee can never be replaced by a bee of the yellow races. Except under ideal weather conditions—which is a rarity in this country—such a bee is at a definite disadvantage, and cannot be expected to compete with the dark races. The yellow races are, in general, of frail constitution, and are prolific breeders of short-lived bees; and, while it is agreed that such characteristics may under certain conditions provide satisfactory yields, it is very exceptional for them to do so in this country.

On the other hand, the dark races show distinctly superior qualities under our climatic conditions. They are hardier, and, although less prolific in the majority of cases, the individual bees are certainly longer-lived.

The British climate necessitates a bee such as this is to replace its own native bee, and in our search for a worthy successor we have proved conclusively to our satisfaction—and, be it noted, to the satisfaction of many thousands of beekeepers—that pre-eminent among the dark races is the grey bee of the Caucasus Mountain regions. Its virtues are many, its vices few!

The Caucasian bee is a native of wild mountainous country, where the summers are short, honey sources scarce, and the winters long. Consequently, nature has adapted this race to suit these arduous conditions, endowing it with a stamina unequalled by any other race, and with certain physical variations from other races clearly defined, a result one can readily understand when it is realized that due to geographical environment, it has been cut off from intermixture with other races for thousands of years.

Stamina in the honeybee is all important, and means much more to the beekeeper than he usually realizes. Our variable climate demands the presence of stamina to a degree unnecessary in the majority of European countries. On it depends the four factors which make all the difference between success and failure, and, briefly stated, these factors are (a) safe wintering on a minimum of food, (b) sure and steady building up in the spring, (c) ceaseless activity early and late during the honeyflow, (d) high resistance to disease.

All these desirable features reach their zenith in the grey Caucasians, their exceptional hardiness being self-evident to the beekeeper who has the good sense to utilize this most efficient and pleasing bee.

Other things being equal, the measure of the honey yield varies in direct proportion to the honey gathering capacity of the bee used; and this is mainly the reason why the grey Caucasian is so definitely superior in this respect to other bees, coupled with its exceptional length of tongue. Here we have ample proof of its physical difference in comparison with all other races. Wedmore, in his "Manual of Beekeeping," gives the tongue length of Italians and hybrids from 6.0 to 6.5 mm. and that of Caucasians as 7.01 mm., an advantage of approximately 15 per cent, which is fittingly reflected in the large yields obtained. Therefore these bees are able to work certain varieties of red clover, which they most certainly do.

One fallacy among beekeepers is the belief that bees must be bad tempered to give heavy yields. Such a belief is at once discounted by actual fact. Nowhere in the world will you find as gentle a bee as the Caucasian, which is universally known to be "the gentlest bee under the sun."

Out-of-date and uninformed textbooks are, in many cases, guilty of accusing the Caucasian of excessive swarming and propolizing. Of the former we can only say that, given rational beekeeping, queen cells are few and far between, that these bees are definitely **not** swarm-prone, and that in our queen breeding we have the utmost difficulty in persuading them to raise more than half a dozen queen cells at one time Despite the fact that we use no methods of swarm control, the already small number of swarms in our apiaries diminishes in quantity year by year, and the vexing afterswarms or cases, are practically nonexistent.

Regarding the use of propolis, it must be admitted that, in their natural state, they are probably inclined to use more than other races, but it should be understood that this is mostly in the form of a screen or barrier at the entrance. By selective breeding, however, we claim to have reduced this tendency to within reasonable limits, and that it is no longer objectionable.

It may be truthfully said that the grey Caucasian has all the good traits of other bees, plus several other highly desirable ones, and are rapidly becoming popular with the large commercial apiaries.

The Honey War

By KENT L. PELLETT,

Iowa.

THE bee, as well as the dove and the burial of the hatchet, is a good emblem of peace.

But it is a matter of record that, once at least, the bees started a war. It was known as the "Honey War," fought between the sovereign state of Missouri and the territory of Iowa.

The "Honey War" was not bloody. It was a comedy rather than a tragedy, so the bees and their keepers need not blush over it much. In fact, the bees were not really at fault. The trouble started because of a confusion in human minds over the boundary between Missouri and Iowa. The bees only gave the kindling spark.

The boundary between Missouri and Iowa was hooked to the Des Moines Rapids at one point, according to the Missouri constitution. But where were the Des Moines Rapids? There were rapids called the Des Moines in the Mississippi River, and one surveyor ran his line from there. But another surveyor found a riffle in the Des Moines River itself, and he ran his line from there.

These two surveys left 2,600 square miles of disputed territory. It is a common illusion of people and states that the more land they have to worry about the better. So both wanted the disputed territory, and Iowa claimed the southern boundary, while Missouri claimed the northern. They did not come to blows at first, however, for this fringe was all wilderness.

But in time people who thought they were living in Iowa complained to the governor, Robert Lucas, that Missouri officials were trying to assess them for taxes. That was in 1838.

Soon feeling ran high. Then, some Missourian chopped down three bee trees in the disputed territory, and "stole the honey." That outraged all Iowa. An Iowa constable tried to arrest the man with the honey, but he escaped into Missouri and safety.

Governor Lucas, of Iowa, and Governor Boggs, of Missouri, each thundered to the local officials on his side of the line, "Do your duty!" The sheriff of Van Buren County, Iowa, thought it his duty to arrest the sheriff of Clark County, Missouri, when he tried to collect taxes on the fringe. This he did, and incarcerated him at Burlington, then the capital of Iowa Territory.

The two governors now called out their militias. About two thousand Missourians responded, although rumors were freely broadcast across the line that ten thousand were coming to lay waste the fair Iowa countryside.

The Iowa governor had a little trouble in getting together his army, for the Iowans, for all their racket, did not really wish to fight. Then somebody urged that Congress could be made to finance the campaign with some easy money. After that, the ranks filled up readily enough, and soon twelve hundred Iowans were marching and shouting, "Death to the Invading Pukes!" These Iowans had some strange and wonderful weapons. One had a plow coulter hung over his shoulder, one a sausage stuffer, and another a sheet iron sword six feet long.

By this time the humor of the situation was beginning to infect everybody except the worried officials. A Missouri wit, John I. Campbell, wrote a poem, to be sung to Yankee Doodle.

The Honey War

Ye freemen of the happy land,
Which flows with milk and honey,
Arise! To arms! Your ponies mount!
Regard not blood or money.

Old Governor Lucas, tiger-like,
Is prowling 'round our borders,
But Governor Boggs is wide awake—
Just listen to his orders.

Three bee trees stand about the line
Between our state and Lucas,
Be ready all these trees to fall,
And bring things to a focus.

We'll show old Lucas how to brag,
And seize our precious honey!
He also claims, I understand,
Of us three bits in money.

Now, if the Governors want to fight,
Just let them meet in person.
And when noble Boggs old Lucas flogs,
'Twill teach the scamp a lesson.

Then let the victor cut the trees,
And have three-bits in money,
And wear a crown from town to town,
Anointed with pure honey.

Now a delegation of Missourians went to Burlington to confer with the Iowa Legislature, which passed a resolution asking for the suspension of hostilities until Congress could settle the matter of the boundary.

When the Missouri militia heard that the war was over without ever having seen the enemy, they showed their disgust at the whole affair by hanging up two hunks of venison. One they named Boggs, the other Lucas. They riddled these with their bullets, indiscriminately. Then they buried these effigies with mock military honors and hurried home to see about more important tasks.

Though the war was over, nobody knew just where the boundary was, until it was established many years later by the United States Supreme Court.

The Iowa militiamen were never able to collect from Congress for their services in the Honey War, although their delegate from the territory did his best to get through an appropriation for thirty thousand dollars.

———*ABJ*———

Uniform Bee Disease Law

The Bee Culture Laboratory of the United States Department of Agriculture has recently prepared a tentative set of regulations for the control of bee disease in the various states, in accordance with the request of the meeting of the bee inspectors' assoociation at New Orleans in 1938. These tentative regulations are now to be distributed through the various inspection services for their criticisms in the hopes that perhaps there may be a possibility in the future of working out a uniform apiary inspection law.

Varying conditions and varying necessities undoubtedly are going to make it extremely hard to get one uniform law which will fit all sections of the country. It is hoped, however, that this may be arrived at. Needless to say, the advantages of such uniform law are many and there would be particularly advantages to beekeepers who move from one state to another in that they would not continually have to be confronted with foreign regulations with which they were not familiar.

Meetings and Events

Southern States Beekeepers Federation

The annual meeting of the Southern Beekeeping States Federation was held at Vicksburg, Mississippi, October 30-31, 1939. The Delta and the Mississippi Beekeepers Associations were hosts. The meeting was opened with President M. S. Fortune presiding. Mayor J. C. Hamilton, of Vicksburg, welcomed the Conference, and in the absence of E. G. LeStourgeon, responses were made by T. W. Burleson and J. M. Robinson. The minutes were read by A. V. Dowling, secretary, and were approved and committees were appointed. A motion was made and adopted that the registration list and a copy of the program were to be filed with the minutes and all forwarded to a place designated in Texas for permanent records. This motion was made to eliminate lengthy, detailed reading of minutes before the meeting.

The program was opened by George W. Bohne, president of American Honey Producers' League, Luling, Louisiana, with a talk on the "Activities of American Honey Producers' League during 1939." He was followed by C. H. Bishop, of Sears, Roebuck & Co., Atlanta, Georgia, with "Some Suggestions for Increasing Consumer Demand for Southern Honeys." Geo. H. Rea, Extension Specialist in Apiculture, Cornell University, gave an interesting talk on "Beekeeping for Orchard Pollination."

The first speaker on the afternoon program was Mrs. Harriett M. Grace on "Work of the American Honey Institute for 1939." M. J. Deyell, Gleanings in Bee Culture, Medina, Ohio, spoke on "Suggestions for Boosting our Industry." G. H. Cale, American Bee Journal, Hamilton, Illinois, talked on "The Breeders' Opportunities." Warren Whitcomb, Southern States Bee Culture Laboratory, used as his subject "Factors Affecting Queen Supersedure." Next there was a Round Table discussion of queen-rearing methods. This was led by E. Oertel, of the Southern States Bee Culture Laboratory, and the following took part in the discussion: W. C. Roberts, E. C. Bessonet, J. G. Rossman, J. W. Newton, and H. C. Short. J. M. Robinson, Auburn, Alabama, led a discussion on the discontinuation of the marketing agreement.

In the evening the Mississippi Beekeepers Association held their meeting. At 8:00 the annual meeting of Goofy Beekeepers and Tellers of Tall Tales was held. Ned Prevost was Chief Narrator, and prizes were awarded to R. E. Foster and A. D. Hiett. Following this, the package shippers and the apiary inspectors had separate meetings to discuss their problems.

The morning of the 31st the meeting was opened with reports by the state inspectors present. The following gave reports, R. E. Foster, Florida; Thomas Atchison, Alabama; Edwin Lott, Louisiana; Clay Lyle, Mississippi; E. S. Prevost, South Carolina; A. V. Dowling, Georgia; Homer Richards, Arkansas; C. A. Reese, Ohio; P. G. Craddock, North Carolina; R. L. Parker, Kansas; Julian Allison, Tennessee; and T. W. Burleson, Texas. The proposed model apiary inspection law was presented by Clay Lyle and the inspectors voted to table this law for further discussion at the next annual meeting. After assembly in the afternoon, E. S. Prevost, Extension Bee Specialist, Clemson, South Carolina, talked on "The South's Transition from Box to Frame Hives." A. D. Hiett, Lynchburg, Virginia, talked on "Key Problems of Southern Producers." Geo. H. Rea, Ithaca, New York, was the last speaker of the afternoon, his subject being "Extension Problems in Beekeeping." After adjournment all assembled at the Hotel Vicksburg and were taken on a most enjoyable sight-seeing trip through historic Vicksburg National Military Park. In the evening a banquet was held at Hotel Vicksburg, with R. E. Foster, toastmaster.

Mrs. Harriett M. Grace made a broadcast on both afternoons, from Vicksburg's station WQBC.

A motion was made and adopted that the Conference name be changed to SOUTHERN STATES BEEKEEPERS FEDERATION.

Tampa, Florida, was selected for the 1940 meeting, November 19, 20 and 21, which is Monday, Tuesday and Wednesday of the week before Thanksgiving. The program committee announced that there will be a special program for the ladies which will be open to all ladies of the city. They also request that all beekeepers attending bring samples of different honeys from their states, as there will be an exhibit of these honeys in a prominent place open to the general public.

The following officers were elected for 1940: President, E. C. Bessonet, Donaldsonville, Louisiana; Vice-President, J. G. Rossman, Moultrie, Georgia; Secretary, H. S. Foster, Lakeland, Florida.

Program Committee: R. E. Foster, Gainesville, Florida, Lynn Dewey, Merritt, Florida, A. D. Hiett, Lynchburg, Virginia.

Executive Committee: A. D. Hiett, Lynchburg, Virginia, E. S. Prevost, Clemson, South Carolina, Guy Le Stourgeon, San Antonio, Texas, M. S. Fortune, Mayhew, Mississippi, H. C. Short, Fitzpatrick, Alabama, Julian Allison, Nashville, Tennesee, G. G. Puett, Hahira, Georgia, J. W. Newton, Baton Rouge, Louisiana, P. G. Craddock, Raleigh, North Carolina, R. L. Blackwell, Oklahoma, Leslie Wedgeworth, Oracle, Arizona, Guy F. Diemer, Liberty, Missouri, H. C. McGregor, Hope, Arkansas, Geo. Abrams, College Park, Maryland.

A. V. Dowling,
Secretary.

— o —

New Jersey Beekeepers' Association Annual Convention

Thursday, January 25, 1940

Lodge Room, Moose Hall, 401 East State Street, Trenton, New Jersey
William Kampfe, President, presiding.

Morning Session

9:30 A. M.—Report of secretary-treasurer, Elmer G. Carr, Pennington.

Report of standing committees: Research, G. Fred Jordy, Flemington. Membership, Paul Holcombe, Lambertville. Publicity, Elmer G. Carr.

10:15 A. M.—"Selecting Outapiary Sites"—John Conner, Caldwell.

10:30 A. M.—"The Work of The Federal Government in the Interest of Beekeeping"—James I. Hambleton, Beltsville, Maryland.

Visit to Farm Show in Armory.

Afternoon Session

1:30 P. M.—Election of Officers.

1:45 P. M.—"Publicity in Schools"—C. L. Howk, East Orange.

2:00 P. M.—"Selling the Crop"—Leslie E. Thran, Irvington.

2:20 P. M.—"Queen Rearers' Problems"—Wm. G. Hayes, Far Hills, Harry N. Conner, Stockton, Albert G. Hann, Glen Gardner.

3:00 P. M.—"The Importance of Pollen in the Welfare of a Colony"—James I. Hambleton.

Visit to Farm Show in Armory.

Evening Session

6:30 P. M.—Beekeepers' dinner, Y. W. C. A., 140 East Hanover Street. Details to be announced at the morning session.

— o —

Minnesota Association, December 5-6

The Minnesota Beekeepers Association will hold its annual meeting and convention in Minneapolis on

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December 5-6, with headquarters at the Radisson Hotel.

A large attendance is anticipated and beekeepers from other states are welcome. An interesting program is in prospect. Come and meet your friends in Minneapolis; the date, December 5-6.

Norris J. Ellingson,
Secretary.

—o—

Middlesex County Meeting, December 30

The December meeting of the Middlesex County Beekeepers Association will be held on Saturday evening, December 30, at 7 P. M. in Concord, Massachusets, at 19 Everett Street. Prof. L. B. Crandall, Extension Apiarist of the Connecticut State University, will speak on "Repellents." Mrs. Jones will be chairman of the supper which will include fish chowder, honey baked ham, cabbage salad, honey rolls, honey apple and honey mince pies, pickles, and coffee.

A. M. Southwick.

—o—

Texas Ladies' Auxiliary

In 1938 the Ladies' Auxiliary of the Texas Beekeepers Association decided that the best way to advertise honey is not only in large towns but among those people who have little or no contact with the country. At a tea which was given in the auditorium of the Express Publishing Company many women living in San Antonio, which is considered a honey concentration point, were surprised to learn how useful honey can be in the making of well planned and pleasing meals. The success of this tea led to a campaign by the Ladies Auxiliary for a better celebration in 1939. By request, Governor W. Lee O'Daniel proclaimed October 22-29 as Texas Honey Week.

As the American people love to be first in everything the 4-H Clubs of Uvalde County, led by Miss Mary Jane Reed, exhibited a wonderful collection of foods made with honey and gave an appropriate program on October 21.

On October 22 a talk was given at regular lecture hour at the Witte Museum, San Antonio, on "Bees, Flowers, and People" in which the interdependence of these three was brought out. The speaker concluded the talk by suggesting that those people who did not use honey in their homes make a test of this material and find for themselves its fine qualities. Over two hundred attended and before dismissal they were served honey sweetened punch.

Throughout the week the sidewalk space in front of the King Furniture Company was crowded as the passers-by studied an assortment of things of interest which pertain to beekeeping. The evolution of a beehive from its start, from a one-sided paper wasp nest to a complete modern hive; a display of the oddities of things pertaining to beekeeping; samples of various blends of honey; and a display of pressed honey plants were among the articles in the display. All these called the attention of the observers to a dripcut container of honey marked "Nature's Best Sweet."

Help in making Texas Honey Week a success came from many of the business firms of San Antonio. N. H. King, of the King Furniture Company, not only supplied the display window but made numerous references to Honey Week on his regular morning broadcast. WOAI and WTAW called the attention of the radio audience to the celebration in San Antonio and other cities.

The well-known Weaver families in Navasota had a honey tea, having as their guests, friends from numerous places in the Brazos Valley. The Burlesons also gave a honey tea and upheld the traditional hospitality of that family. Already plans are being formulated to make the Honey Week celebration in 1940 extend to numerous large cities of Texas.

H. B. Parks,
San Antonio, Texas.

—o—

Sheboygan County (Wisconsin) Association

All officers of the Sheboygan County Beekeepers' Association were re-elected Nov. 4 at the annual meeting in the city hall at Plymouth, Wisconsin, as follows: L. L. Pierron, Plymouth, president; John Lubbers, Cedar Grove, vice-president, and Harold Wentz, Sheboygan Falls, secretary-treasurer. Martin Koebel, Plymouth, was elected a director for a three-year term.

H. C. Brunner,
Wisconsin.

—o—

John Gruel, an employee of the G. B. Lewis Co., Watertown, Wisconsin, makers of apiary equipment, was honored October 30 by members of the firm at a banquet in observance of his 50th anniversary with the company.

L. W. Parks, president of the company, presented Mr. Gruel with a gold watch and chain. Gordon Frater, assistant general manager of the firm, acted as toastmaster at the banquet, which was attended by 43 male employees of the company.

A similar meeting and presentation was held two years ago when Albert Otto passed his 50th year of service with the company. Both men continue as employees of the firm.

H. C. Brunner,
Wisconsin.

Institute News

GREETINGS FROM THE AMERICAN HONEY INSTITUTE OFFICE —We wish you a Merry Christmas and a Happy New Year and trust that 1940 has much happiness and prosperity in store for you.

* * *

Included in the publicity given to National Honey Week was an announcement over The Farm and Home Hour:

"Here's a sweet thought for the day; in fact, for the entire week. The 800,000 or more beekeepers in the United States play an important part in the production of foods and it is fitting that a definite time be set aside in appreciation of their contribution to the American table. Make an effort to serve honey this week and every week."

* * *

Listen In!

Listen in to the "Young Dr. Malone" program presented by Post's Bran Flakes on December 8 at 11:30 A. M., Eastern Standard Time over the NBC Blue Network. This program is presented every day Monday through Friday. Remember the special date of December 8 and listen in other days also.

* * *

A representative of the Institute gave a fifteen-minute broadcast on Honey at Vicksburg, Mississippi, on October 30 and 31.

* * *

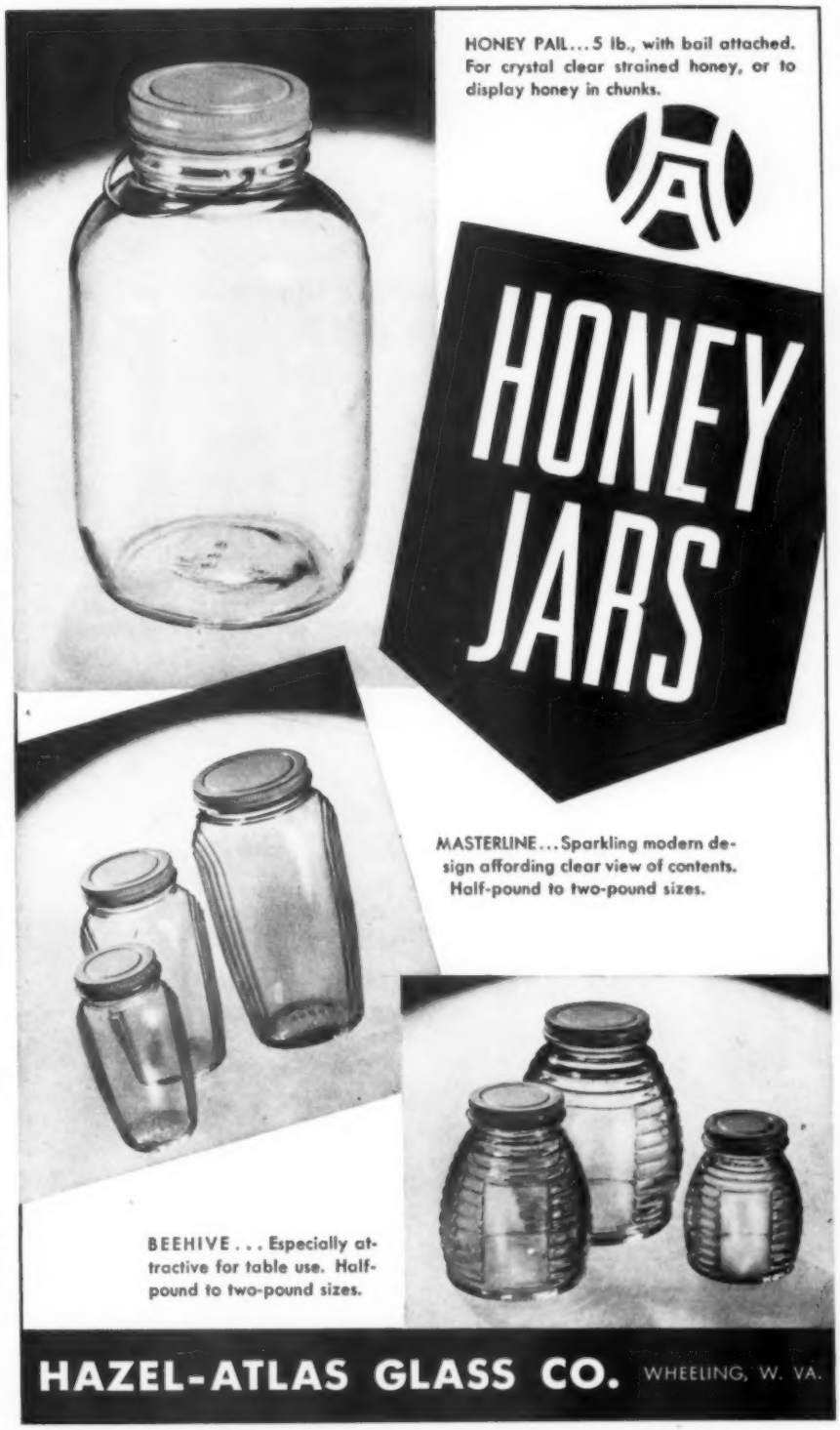
John A. Logan, president of the National Association of Food Chains, sent a message to all members, calling Honey Week to their attention, which this year was October 23 to 30.

* * *

Will your name be on the Who's Who in the American Beekeeping and Honey Industry? December 31 is the last day.

* * *

The American Honey Institute has just received quantity sized recipes from one of the largest schools in this country. These recipes have been worked out by the Home Economics Department and have been tried and tested in the school's cafeteria. Sometime later these recipes will be available in pamphlet form. Cafeterias, tea rooms, and hotels have been in need of these recipes for a long time.


HONEY PAIL... 5 lb., with bail attached. For crystal clear strained honey, or to display honey in chunks.
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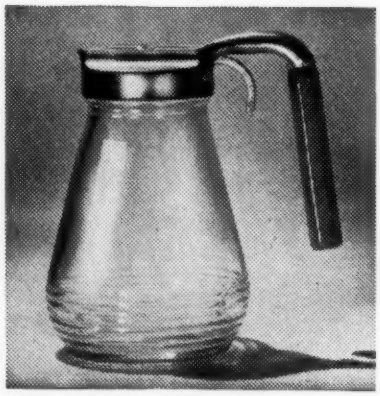

No. 110

No. 210

As Gifts

Nothing nicer than a server full of honey for a friend.

As a Feature

In your honey exhibit at stores. Thousands have been sold, and thousands of cans of honey to refill the server.

As a Honey Popularizer

No more messy dish and spoon. No more honey dripped on table or floor—Honey using now is easy.

As a Bargain

At prices at which these are obtainable these servers filled with honey may be offered at a price that will be cheap to the consumer.

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	1	12	36	72	144
No. 110 Server, each (Polished Chrome Finish Catalin Handle)	60c	45c	43c	41c	39c
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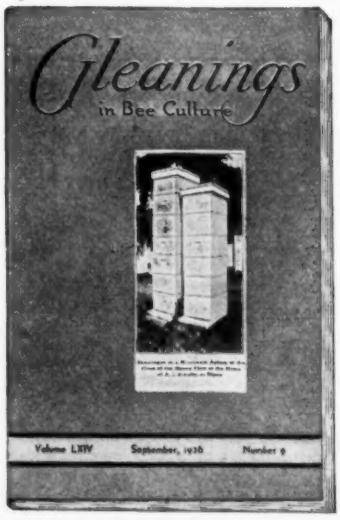

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WRITE FOR PRICES.
E. J. Bordelon, Box 33, Moreauville, La.

Crop and Market Report

Compiled by M. G. Dadant

For our December crop and market page, we asked reporters to answer the following questions:

1. How near is your own crop of honey disposed of?
2. What percentage of the crop is out of the hands of producers in your section?
3. Are carlot and jobbing prices definitely rising over the low of late fall?
4. What about retail prices? Are they rising also?
5. What could you now get for good white honey in carlots? In ton lots? 5 lb. retail?

Own Crop Disposed of

In the New England States, the reporters have their crop fairly well disposed of, running as high as complete clean-out on honey. New York reports over 60 per cent sold and from New Jersey southward to Georgia, a very large percentage of the honey of the reporters has been already sold. Georgia reports only about 50 to 60 per cent and so does Florida. The southern central states have very little on hand. However, Louisiana has quite considerable quantities.

In Texas, the individual reporters seem to have practically all of their honey disposed of and Pennsylvania similarly, perhaps on account of the short crop. Indiana also is reporting very good disposition.

In all sections of the country our reporters indicate that at least 50 per cent and as much as 100 per cent of the present honey crop has been disposed of.

Per Cent Out of Hands of Producers

The New England States, as above, have at least 75 per cent out of the hands of producers and New York probably similarly the state over. There is much more than this in the Atlantic seaboard as far as Georgia, running as high as 85 per cent of all the honey produced already out of the hands of producers. In Georgia, it will run 50 to 90 per cent, whereas many of the Florida beekeepers have either just extracted or do not have over half of their honey sold.

California usually is lagging behind in selling of honey but this year, on account of the short crop, California is extremely well sold out on honey and, as a consequence, is not a "bear" on the market as it has been some times in the past.

Are Carlot Prices Rising?

In most cases, reports are that carlot prices are up from ½ cent to 1 cent per pound over the low in August, although some honey is still being sold at sacrifice prices. Many reporters state that the price now is ½ to 1 cent above what it was earlier in the season with a very strong tendency although much honey still remains more or less at a sacrifice.

Retail Prices Rising?

In this instance, however, we do not find the same stiffening as in the wholesale price. This is somwhat unusual, as certainly the retail prices should follow wholesale. However, we have a particularly difficult condition in the 5-pound pail market. In this instance, the prices in some cases are lower in 5-pound pails than in carload lots.

The tendency in the smaller producing areas is to hold the price constant from one year to the other with very little change this year over what it was one year or two years ago.

In other cases, however, honey prices this winter are lower than they ever have been before even in the low period during the depression. This is somewhat difficult to account for in view of the fact that there is a general tendency for carlot prices to advance. It seems apparent that many beekeepers, especially the fairly large producers, are going into the market themselves, probably selling direct to the large chain stores rather than sacrifice their honey at prices quoted in carload lots, and, as a consequence, we find some extremely low retail prices in 5-pound pails. As a general thing, retail prices have not as yet responded very much to a decided stiffening in carlot prices on honey. This is likely due to the extreme competition between packers on low price honey which they already have on hand.

Carlot Prices

One can find reported practically anything that is within or without reason in the way of carlot prices. However, a majority of the prices range at from 5 cents to 5¾ cents f. o. b. shipping point for good white honey. Naturally, this does not mean that there have not been many sales at 4½ and 4¾ cents and especially where cans have been returned. The tendency, however, is for honey at 5 cents or above, with many already holding for 6 cent price but very little call at this figure.

There have been, however, a number of sales at 5½ cents f. o. b. shipping point, and in unusual instances a price of 6 cents has been received in carlots where special customers are to be supplied. As a consequence, ton lots are also ranging from 5½ cents up to 7 cents per pound for good white honey. We do not find the great variation that we do in the 5-pound pail price.

5-Pound Pail Prices

As one of our reporters has very tersely expressed it, "5-pound pails have been turned into a football." He is exactly right. There seems to be a chaotic condition in the entire honey market but in all this chaos, the worst comes in the 5-pound pails. A special sale bill was sent by one of our readers from Wisconsin just recently in which a chain store offered 5-pound pails of honey at 35 cents, whereas we find 5 pounds selling as high as 90 cents in some of the New England States where there is a special market. How on earth anybody can afford to sell the chain stores so that they can retail at a 35 cent price, is beyond the writer's imagination. It must be a case of an individual large producer who is packing his 5-pound pails himself and satisfied with perhaps a price of 4½ cents to 5 cents per pound for his honey and even then it is hard to believe that he can come out on this figure with such a ridiculously low price. The average prices throughout the country would be in the neighborhood of 45 cents to 60 cents for the 5-pound pails with many instances where honey is selling retail at 37, 39, 40 and 43 cents for a 5-pound pail, particularly on the part of the chain stores.

We have seen some chaotic honey prices in the past but nothing, we believe, to equal what is happening this year. Undoubtedly this will clear up later on as honey gets into stronger hands but undoubtedly also we are paying the price of competition on the part of the individual producer who is satisfied with a low average price for his honey, competing against the packer and the smaller individual beekeeper who must have higher prices in order to make both ends meet.

Such chaotic conditions most certainly are bad for the honey industry.

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HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company Inc. 630 Fifth Avenue, New York, N. Y.

WISCONSIN NO. 1 white and light amber honey. H. Reim, Watertown, Wisconsin.

'39 crop clover and buckwheat honey. Scribner Hill Apiaries, Ionia, N. Y.

NEW CROP white extracted in new sixties. Case or carload. Harry C. Kirk, Armstrong, Iowa.

CLOVER and Light AMBER in 60's, 7c and 6c. E. S. Miller, Valparaiso, Indiana.

SWEET CLOVER HONEY of the finest quality put up in new sixties. Also chunk comb honey. W. M. Peacock, Mapleton, Iowa.

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COMB HONEY—No. 1 clover $3 case; No. 1 amber $2.50; dark amber $2; fancy buckwheat $2.50, No. 1 $2. 1938 comb at low price. Clover extracted 7c; amber 6½c; buckwheat 6½c. C. B. Howard, Geneva, N. Y.

NEW CROP CLOVER, also light amber in new sixties. Fine quality. Ton lots. Sample 10c. Write for prices. Meyer Toom, Rt. 4. Knoxville, Iowa.

CLOVER AND FALL FLOWERS HONEY for sale in 60 pound cans. Sample for the asking. W. S. Earls, New Canton, Ill.

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WHITE CLOVER in containers to suit. Henry Stewart, Prophetstown, Illinois.

CHOICE EXTRACTED CLOVER HONEY in 60's. R. C. Bish, Successor to Moore Apiaries, Tiffin, Ohio.

FANCY TUPELO HONEY for sale, barrels and 60's. Marks Tupelo Honey Co., Apalachicola, Florida.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

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WANTED—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, California.

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100 or 400 colonies bees, with equipment, plenty honey. No disease. Clyde Cobb, Belleville, Arkansas.

FOR SALE—600 colonies bees in good southern location. Victor Apiaries, Goodrich, Texas.

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WANTED

WANTED—Position. Experienced beekeeper; also queen breeder, package man. Am married. C. B. Saunders, Potosi, Missouri.

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"HISTORY OF AMERICAN BEEKEEPING," by Frank Pellett, covers a field which has been neglected until now. Ralph Benton in the "Frontier" says: "A great work presented at a timely moment. We wish there might be some way to place this book in the hands of every beeman." Nicely printed, well illustrated, large pages. $2.50 prepaid. American Bee Journal, Hamilton, Illinois.

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THIS LITTLE GIRL WILL HAVE A HAPPY CHRISTMAS *but*

Tuberculosis is still the greatest killer of youth . . . and takes *fifty per cent more girls* than boys between the ages of 15 and 25!

Two modern aids that help the physician detect tuberculosis in its earliest, *curable* stage are the tuberculin test and the chest X-ray.

Your purchases of Christmas Seals make it possible, not only to teach people that tuberculosis is preventable and curable, but to look for early stages of this dread disease among children who *seem to be* in good health.

So from now 'til Christmas, mail no letter—send no package—unless it is decorated with the Christmas symbol that saves lives!

BUY CHRISTMAS SEALS

The National, State and Local Tuberculosis Associations in the United States

The Postscript

A reader of this magazine with whom I have had long and friendly correspondence in Germany has recently come to this country. Because of difficulties of securing exchange he was compelled to leave behind his home and business, his investments and money and reached this country without financial resources. His position now is very difficult and he is anxious to find a place where he can provide a living for his family. He would be glad of a job at gardening, beekeeping, or fruit growing to enable him to carry on until such time as he is able to prove his ability in more lucrative fields. Should any of our readers know of a suitable opening I will gladly put them in touch with him.

———ABJ———

The death of John H. Lovell, the Maine naturalist, on August 2nd., removed a unique figure. With a comfortable income he was not faced with the necessity of following a commercial pursuit. Much of his life was given to the study of the relationship of plants and insects and he published many papers on pollination. His interest in the honeybee made his name familiar to the beekeeping fraternity although he was never concerned with the production and sale of honey.

A visit with him at his beautiful home near the sea is one of my happiest memories.

———ABJ———

We are having very little success in finding reports of honey from soy beans. Those who write, say that they do not find the bees working this plant. Edward F. Grovatt, of Burlington, New Jersey, says that he had five acres of soy beans beside his apiary and failed to find a bee on them at any time. We are anxious to get in touch with beekeepers who have secured honey from this source.

———ABJ———

A very interesting account of the mating of the bumblebee comes from Charles E. Phillips, of St. Catherines, Ontario. In the case that he observed, the contact was made upon the wing although the insects drifted slowly to the ground. Evidently mating may take place upon the wing as observed by Mr. Phillips or wherever the insects may alight, as on the flowers of cleome lutea in the cases that I chanced to see. It is never safe to form too definite conclusions on the evidence of a few observations. Our observations agree on one point—that the male flew away apparently in normal vigor.

———ABJ———

One reason why weeds prosper without assistance while so many cultivated plants make a poor showing in comparison, is because of the abundance of seed produced by weeds. Whereas 500 seeds is a good yield for red clover plant in one season, the yellow foxtail plant may produce more than 100,000 the same year. Several different kinds of weeds are equally prolific, pigweed with 150,000 and purslane with more than a million seeds from one plant under favorable conditions.

———ABJ———

Even the bosses get uneasy at times when they read the letters from migrating beekeepers who are just now going south. When M. G. read the letter from Morley Pettit saying that he was leaving Canada for the winter for the milder climate of Tifton, Georgia, he seemed inclined to be envious of the beemen who follow the ducks.

Pettit is leaving his former location at Albany, Georgia, for Tifton about forty miles away, because there is less burning of the woodlands and spring pasture is better for his bees. Pettit has a honey producing outfit in Ontario but has spent his winters in the South for many years.

The number of northern beemen following his example increases every year. It would be interesting to know how many there are who now desert the home country when winter approaches.

In a recent letter from Dr. John N. Martin, botanist of Iowa State College of Agriculture, he states that honeybees gave more attention to red clover than usual in fields under his observation this year. The result, of course, was higher yields of seed. Dr. Martin was curious to know whether there was a shortage of sweet clover or other competing sources of nectar. On the contrary, sweet clover yielded a better than usual crop of honey in most of Iowa. The explanation is probably that red clover offered more nectar than usual. Martin anticipates a marked increase in yield per acre when this year's reports are in for Iowa.

———ABJ———

Our readers will be interested to know that Dr. Martin has made a large number of crosses between the Zofka red clover and other strains commonly cultivated. It is hoped thus to be able to combine the short flower tube of the Zofka with desirable characters of strains already acclimated to the Midwest. He has been working on problems of pollination of red clover for many years.

———ABJ———

The National Apple Institute has organized a very successful sales drive through the chain stores to help move the apple crop. The loss of export markets through war conditions, together with the big crop and keen competition with other fruits has made hard going for apple growers. When apple week came around the cooperation of all types of retailers was secured to push the fruit. The net result was more apples on display than ever before and the sale of an enormous quantity of apples. Perhaps here lies a hint to the beemen when we have a burdensome surplus of honey to move.

———ABJ———

In the July Australasian Beekeeper I read that R. G. Maclachlan has found a way of testing trees before the opening of the bloom to discover whether they will yield nectar. The test is described as a simple one covering twenty trees per hour at trifling cost. Many a beekeeper would contribute a tidy sum to know in advance whether there will be a honeyflow.

———ABJ———

Edmond Fontaine writes that sweet clover has almost disappeared from the rich limestone valleys north of Baltimore where formerly there were hundreds of acres of it. The stems of the plant were attacked by fungus and had brown and black cankers to such an extent that not more than five per cent of them were still growing this season.

He asks whether there is a disease resistant strain or whether some other plant can be recommended to plant around the old limestone quarries of that region. Fortunately a study of this problem is already under way at the University of Wisconsin. The success in breeding disease resistance in many other plants lends encouragement here.

———ABJ———

I am confident that definite control of American foulbrood is in sight through the use of resistant bees. Since the experimental project in that field has been under way, many beemen have been seeking such stock. Two letters are now on my desk, one from the East and one from the West, telling of final success by that means. F. S. Harter, of Wheatland, Wyoming, tells of terrible losses in his locality before he found a colony which recovered from an advanced case. He raised enough queens from that source to requeen and no longer has disease.

FRANK C. PELLETT.

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American Bee Journal
Hamilton, Illinois

Volume LXXIX

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